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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

(Large Entity)

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (b)(2).

Docket Number	6433-101	Type a plus sign (+) inside this box →	+

INVENTOR(s)/APPLICANT(s)

LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)
YABLON	GILBERT		21914 Dumetz Road Woodland Hills, California 91364

TITLE OF THE INVENTION (280 characters max)

UNIFIED DIALING SYSTEM FOR TELEPHONE OVERLAYS

CORRESPONDENCE ADDRESS

Robbins, Berliner & Carson, LLP
201 North Figueroa Street, 5th Floor
Los Angeles

STATE	CA	ZIP CODE	90012-2628	COUNTRY	United States

ENCLOSED APPLICATION PARTS *(check all that apply)*

- [X] Specification — *Number of Pages* 26
- [ ] Drawing(s) — *Number of Sheets*
- [ ] Other (specify)

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT *(check one)*

- [ ] A check or money order is enclosed to cover the filing fees
- [X] The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number: 18-1647

FILING FEE AMOUNT: $150.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

- [X] No.
- [ ] Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE _____ Date May 28 1997

TYPED or PRINTED NAME John M. May REGISTRATION NO. *(if appropriate)* 26,200

- [ ] Additional inventors are being named on separately numbered sheets attached hereto

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, DC 20231

P19LARGE/REV03

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10) Applicant(s): **Gilbert Yablon**			Docket No. **6433-101**
Serial No.	Filing Date **May 28, 1997**	Examiner	Group Art Unit

Invention: **UNIFIED DIALING SYSTEM FOR TELEPHONE OVERLAY**

I hereby certify that this **Provisional Application for Patent Cover Sheet and Attachements**
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5/26/97

Gilbert Yablon
21914 Dumetz Rd.
Woodland Hills, CA 91364

Provisional Patent Application Items Pertaining to:

Non-Disruptive methods of adding new phone numbers to exhausted geographic areas.

1) Unified Plan as it is written in presentation form.

2) Overlay Enhanced Personal Telephones which basically operate with the same logic that is outlined in the plan.

If dialing starts with a 0 or a 1, all of the dialed digits will be passed directly through the system, since this is the indicator that the suffix system will not be used.

If dialing starts with other than a 0 or a 1:

All digits are stored in the phone's special 'overlay system memory', and none are passed through until either:

1) 7 digits have been entered + a timing interval has elapsed, in which case, the area code for the parent level of the overlay is output by the phone, followed by the 7 digits that were stored in the 'overlay system memory'.

2) 8 digits have been entered, in which case the phone examines the 8th digit and determines which level of the overlay the 8th digit is calling for. The proper area code is output, followed by the first 7 digits that were stored in the 'overlay system memory'.

Instead of using a special phone, a device could be added to an existing phone between the phone and the phone jack. The device would send dial tone to the phone if dial tone were available from the jack - but it would not pass along the dialed characters until they were all dialed, where upon it would analyze the number and take the proper actions as outlined above.

With these special phones or devices, the area codes that the 8th digit determines could be programmed by the user, i.e.: 0=818 1=626 2=213 3=805. The user can put in any coding they want, and the suffixes don't necessarily have to refer to an actual overlay level. They might refer to any area code that the user feels would be convenient to be able to access with just a single digit at the end of a 7 digit phone number.

3) The plan for what to do when a Unified Overlay Area is full with all 10 area codes (0-9) and a new level is required for relief:

In the event that this should happen, the same Unified Dialing Plan logic would apply to a 2 digit suffix system:

A '0' would be added to each of the original suffixes, i.e.: 00 10 20 30 40 50 60 70 80 90. The same type of timing rules will apply when this new level is added - after 8 digits are entered, a 3 second delay will invoke the X0 level of the overlay. The delay can be avoided by simply dialing all 9 digits. Again, this timing method makes the system non-disruptive.

If only 7 digits are entered, a 3 second delay will still invoke the 00 level - so 7 digit dialing is still maintained to the original parent level. Again, non-disruptive.

01 would be the first new level, followed by 11 21 31 41 51 61 71 81 91. This is most fair. Even though the 00 level will be the first to have to dial 9 digits, original 00 level numbers will still be reachable by dialing 7, 8 or 9 digits.

4) **A non-disruptive plan for what to do when all 1000 of the original 3 digit (XXX) area codes are used up:**
Introduce new 5 digit area codes, where the 4th digit will always be a 0 or a 1. This will create a system for adding 2000 more area codes without disrupting how existing numbers are dialed. The description follows:

All 1000 original area codes will be able to be known as either the XXX00 or as the original XXX. All new area codes will be XXX01 - XXX09 or XXX10 - XXX19

When the dialing doesn't start with a 0 or a 1 the phone system will assume the number is being dialed without an area code prefix, so it will treat the call as a 7 digit call or a Unified Dialing Plan for Overlays 7, 8 or 9 digit call.

If the dialing does start with a 0 or 1 then it is assumed that the number following will be either a 3 digit or 5 digit area code.

If the 4th digit that follows the 'original 0 or 1' is not a 0 or a 1 then it is assumed that an original 3 digit area code is being used, and the call will be able to be completed without dialing the full 5 digits for the area code, which makes this method non-disruptive. Dialing to these original 1000 established area codes will always be able to be completed the same as it is today - with 1 + XXX + 7 digit number -- or--optionally with 1 + XXX00 + 7 digit number.

All new 5 digit area codes will be recognized because of the 0 or 1 in the 4th position, and these numbers will only be reachable by dialing the full 5 digit area codes.

Alternative Version dated 8/15/96:
This is an old discussion which may be too expensive to implement, but I like it better in terms of overall simplicity to the user. I have attached the description of this plan separately.

Further:
Concept of just adding an 8th digit to the end of all numbers on a national scale (even without any of the other implementations I have suggested) with current 7 digit numbers evolving to XXX-1234567-0. The idea being that this method of numbering would be the least disruptive since computers or possibly phone systems could be programmed to simply add the 0 to all numbers in a data base, or if timing could be used, these numbers would default through the same way they do in the Unified Dialing Plan. New numbers would be entered into data bases as 8 digit numbers from the beginning, so any 7 digit number that might be dialed could automatically default to 7 digits + 0.

Unified Dialing Plan For Overlays
Number Allocation Method Diagram
proposed by: Gilbert Yablon revised 5/25/97

Note: (NAA) - (N J J) are distinct 3 digit area codes.
N..... = any number 2-9
A,B,C,D,E,F,G,H,I,J = any numbers 0-9

Here is how the new numbers would be allocated:

(NAA) N23-4567 — current number now.

(NAA) N23-4567 0 — current number under my proposed plan.
note: the trailing '0' would not need to be entered by the user. Phone company equipment will automatically add the '0' after a fixed time (3 - 7 seconds) to complete the call if only 7 digits have been entered by the user. **This feature makes the plan completely non-disruptive.**

(NBB) N23-4567 1 — first generation of new numbers under my proposed plan.

and if more numbers are later needed...
(NCC) N23-4567 2
(NDD) N23-4567 3
(NEE) N23-4567 4
(NFF) N23-4567 5
(NGG) N23-4567 6
(NHH) N23-4567 7
(N I I) N23-4567 8
(N J J) N23-4567 9

note: the trailing '1 - 9' would need to be entered by the user. Since these are new numbers, they will always be known as 8 digit numbers from the time they are first issued, and will be memorized, listed in directories and dialed as such.

Since these area codes would be grouped in a single overlay area, dialing within the overlay area to any of these area codes could be accomplished simply by dialing the 7 digit number + the appropriate siffix under the Unified Dialing Plan for Overlays.

At some point far into the future even more numbers might be needed. The same non-disruptive system could be used to expand again at that time.

(NAA) N23-4567 00 — current number far into the future.
note: neither of these trailing '0's would need to be entered. If only 7 digits were entered, the phone company would automatically add the '0' or '00' after the fixed time. Thus, the original 7 digit number could still be reached by only dialing the original 7 digits.

(NBB) N23-4567 10
(NCC) N23-4567 20
(NDD N23-4567 30
(NEE) N23-4567 40
(NFF) N23-4567 50
(NGG) N23-4567 60
(NHH) N23-4567 70
(N I I) N23-4567 80
(N J J) N23-4567 90

first generation of new numbers far into the future.
note: the new trailing '0' would not need to be dialed. Phone company equipment would automatically add the trailing '0' just as it would for the original 7 digit numbers. So, no directories or habits would need updating even for these numbers.

(NAA) N23-4567 01 (02 03 04 05 06 07 08 09) second generation of new numbers.
(NBB) N23-4567 11 (12 13 14 15 16 17 18 19)
(NCC) N23-4567 21 (22 23 24 25 26 27 28 29)
(NDD) N23-4567 31 (32 33 34 35 36 37 38 39)
(NEE) N23-4567 41 (42 43 44 45 46 47 48 49)
(NFF) N23-4567 51 (52 53 54 55 56 57 58 59)
(NGG) N23-4567 61 (62 63 64 65 66 67 68 69)
(NHH) N23-4567 71 (72 73 74 75 76 77 78 79)
(N I I) N23-4567 81 (82 83 84 85 86 87 88 89)
(N J J) N23-4567 91 (92 93 94 95 96 97 98 99)

The Unified [illegible]g Plan For Overlays Functional Diagra[illegible]
using 818/626 as the hypothetical overlay area
proposed by: Gilbert Yablon revised 5/25/97

Under the current 3 digit area code + 7 digit phone number system:

Calls originating from outside the destination area code or any call made within a Standard Overlay Area:
1 - (NXX) N23-4567

Routing to area code (NXX)

Routing to specific phone number

Connection is made to N23-4567

Calls originating from inside the 'destination' area code - unless the call is made from within a Standard Overlay Area:
N23-4567

Within a Standard Overlay Area, 7 digit dialing is thought to be impractical. All calls will have to be made using 1+10 digit dialing, even calls originating within the destination area code.

NOTE:
'N' can be any number 2 - 9.
'X' can be any number 0 - 9.
NXX = any valid area code.
N23-4567 = any valid 7 digit phone number.

With the Unified Dialing Plan for Overlays,
calls directed to area codes within the 818/626 overlay area would be routed as follows:

Calls originating from outside the 818/626 overlay area:
1 - (818) N23-4567
1 - (626) N23-4567

Calls originating from any area code inside the 818/626 overlay area:
N23-4567
N23-4567 0
N23-4567 1

after 7 digits received, loop for 8 digits

Have 8 digits been received? → NO → Has timing interval elapsed? → NO

YES

YES

Add default trailing '0'

Analyze 8th digit:
if '0' translate to 818-N23-4567
if '1' translate to 626-N23-4567

Routing:
to specific overlay level based on 3 digit area code

area code 818 (parent overlay level) (suffix '0' from within overlay area)

area code 626 (first child overlay level) (suffix '1' from within overlay area)

Connection is made to N23-4567 *(0)*

Connection is made to N23-4567 *(1)*

Currently Existing Area Code

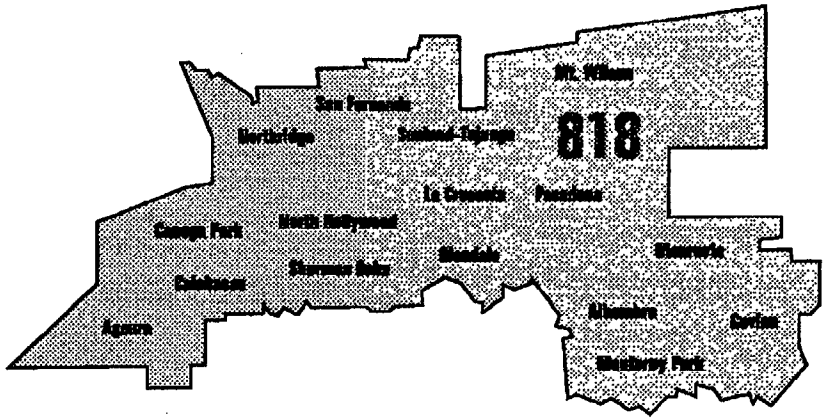


Fig.1: Communities Involved

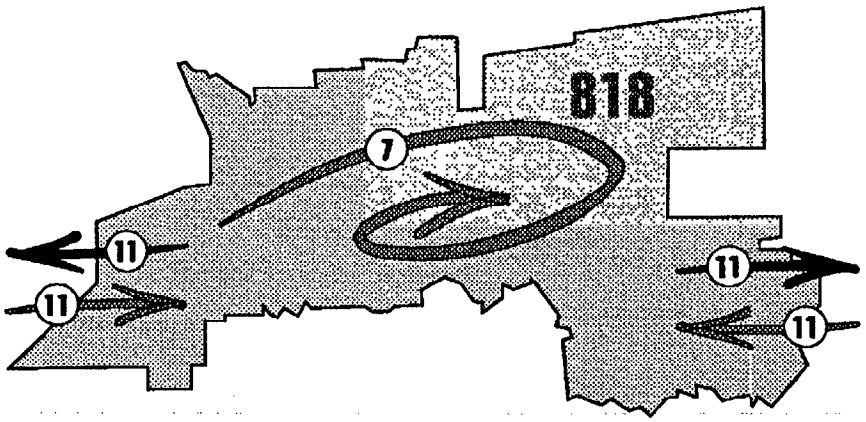


Fig.1A: Dialing Patterns

Dialing Options

7 Digit Dialing
Within 818
123-4567

11 Digit Dialing
Into Area
1+818+123-4567

Out of Area
1+NXX+123-4567

This map shows the established dialing patterns of an area code before being impacted by area code relief. These dialing patterns will be disrupted by either a split or a standard overlay.

Approved Area Code Split [effective June 1997]

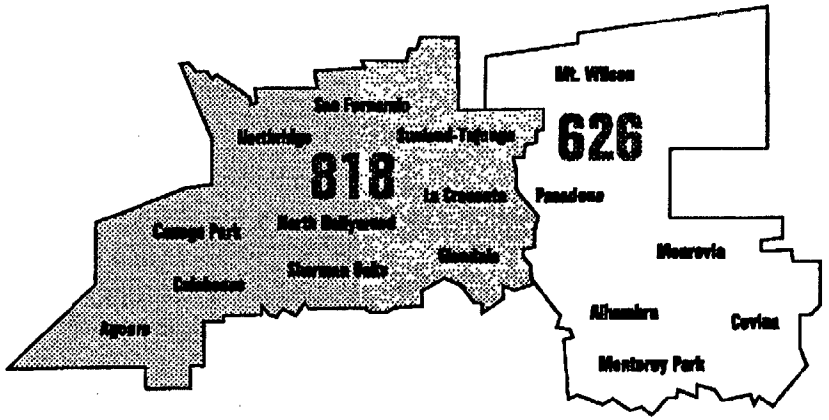


Fig.2: Communities Involved

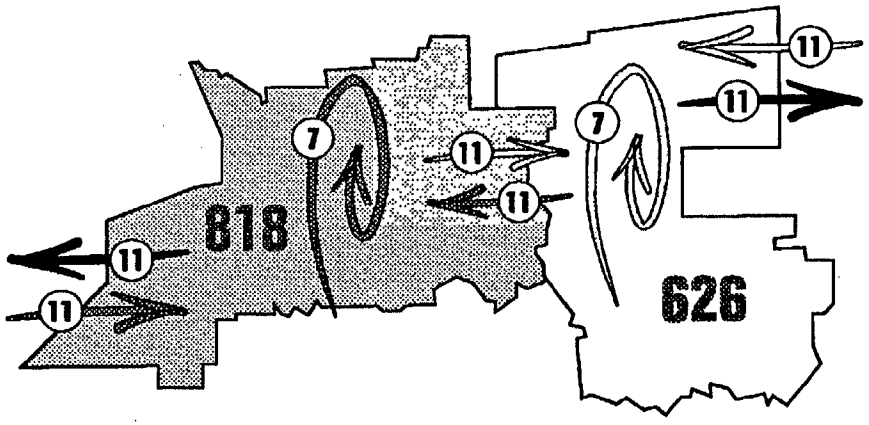


Fig.2A: Dialing Patterns

Dialing Options

7 Digit Dialing

Within 818
123-4567

or

Within 626
123-4567

11 Digit Dialing

Into Area

1+818+123-4567
1+626+123-4567

Out of Area

1+NXX+123-4567

Between 818/626

1+818+123-4567
1+626+123-4567

Implementing a split greatly impacts dialing for calls both within and into the original NPA. This method of relief is expensive for business and disruptive to all customers, both within and outside of the affected area.

The Standard Overlay Method

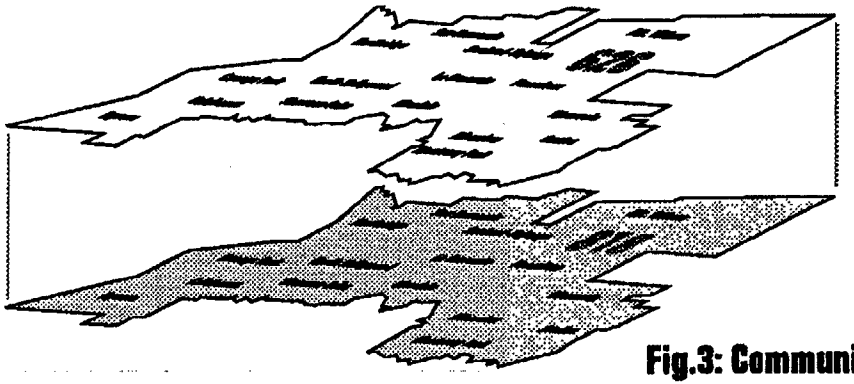


Fig.3: Communities Involved

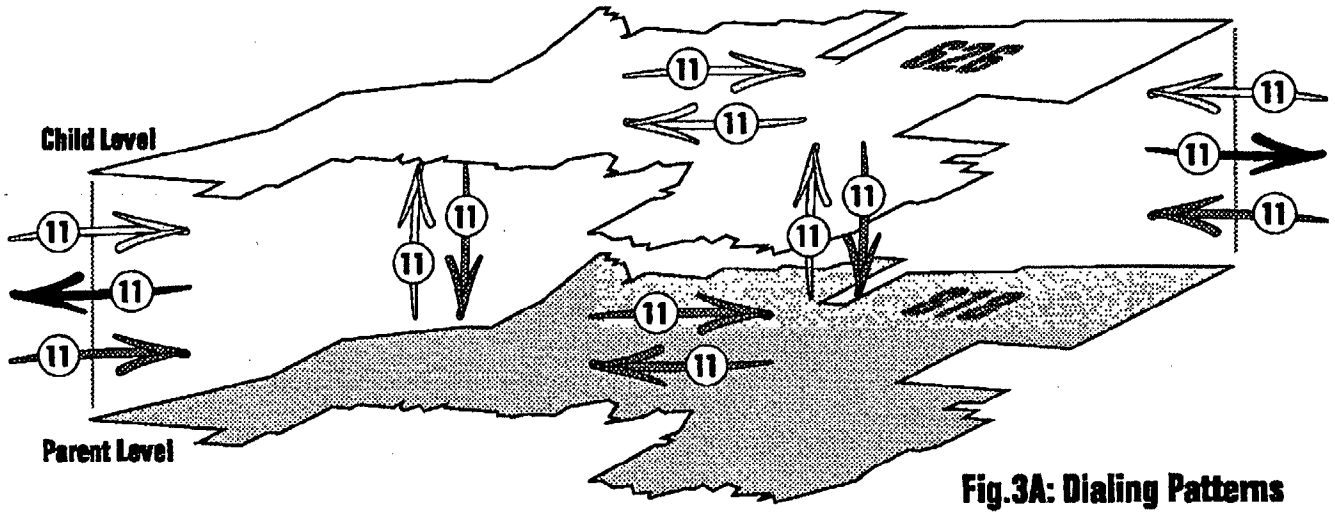


Fig.3A: Dialing Patterns

Dialing Options

7 Digit Dialing

Thought to be impractical for this Overlay Method

Mandatory 11 Digit Dialing

Into Area

1+818+123-4567

or 1+626+123-4567

Out of Area

1+NXX+123-4567

Within 818/626 Area

1+818+123-4567

or 1+626+123-4567

With abbreviated dialing abandoned, the overlay levels are not unified by a distinctive dialing plan. The concern that this mix of area codes will cause hardship and confusion for citizens has prevented overlays from becoming widely accepted.

The Unified Dialing Plan for Overlays

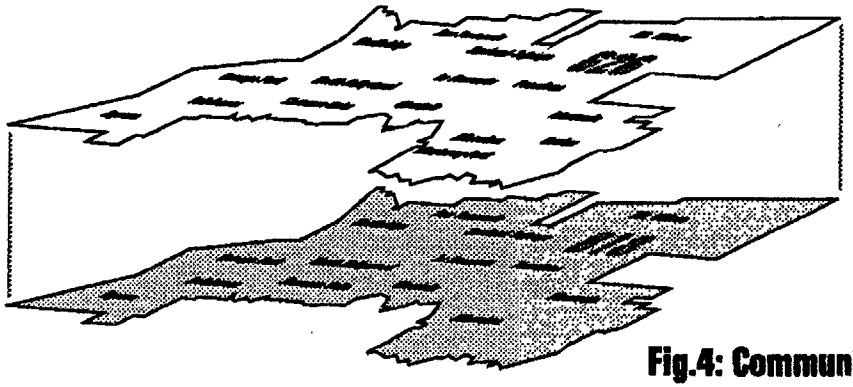


Fig.4: Communities Involved

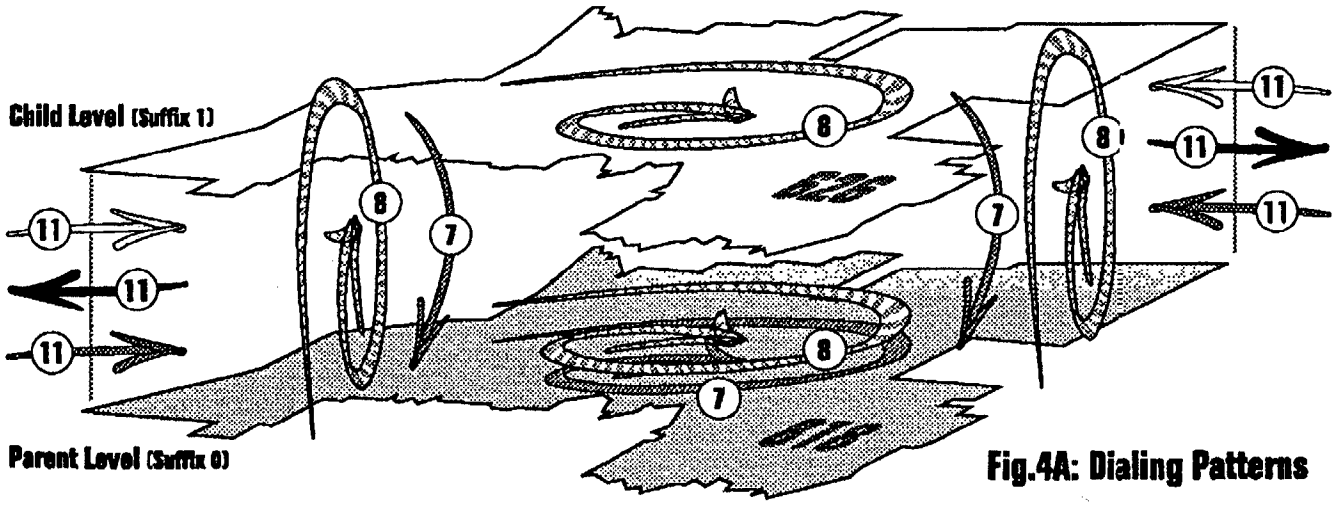


Fig.4A: Dialing Patterns

Dialing Options

7 Digit Dialing - Preserved

From 626 to 818

or

Within 818

123-4567

Unified - 8 Digit Dialing (7+X)

Within 818/626 Area

123-4567+8 (for 818)

123-4567+1 (for 626)

11 Digit Dialing

Into Area

1+818+123-4567

or 1+626+123-4567

Out of Area

1+NXX+123-4567

Note: For Optional 11 Digit Dialing Within 818/626 Area Refer to Fig. 3A

This overlay method provides for long term relief AND maintains the intregity of the original dialing area by:

1) Preserving established 7 digit dialing to all parent level numbers from any level within the overlay area.
2) Unifying all levels of the overlay with a simple 8 digit (7+suffix) dialing system.
3) Allowing for optional (not mandatory) 11 digit dialing between levels of the overlay.

'The Unified Dialing Plan for Overlays'

A Dialing Plan which Supports the Implementation of Overlays for Area Code Relief
proposed by Gilbert Yablon
revised 5/25/97

The following plan describes a dialing system which supports the implementation of overlays for area code relief by eliminating the public's main objections to them. The plan preserves established dialing patterns to existing numbers, and unifies all levels of an overlay area with a consistent abbreviated dialing method. Long term relief is provided for exhausted area codes without impacting dialing in any other areas of the North American Numbering Plan (NANP).

This plan offers the following advantages over standard overlays:

- It greatly reduces the confusion and inconvenience that is associated with having multiple area codes within individual neighborhoods and households.
- Because the plan is non-disruptive to existing 7 digit and 1+10 digit dialing patterns:
  > no one is put in jeopardy by a change to their local dialing plan (especially children),
  > and it ensures that existing auto dialers can complete calls without reprogramming.
- It reduces the likelihood that the new overlay area code will be a stigma for new businesses.
- It ensures that costs to businesses and disruption overall will be kept to a minimum.

Defining these terms will be helpful for the discussions that follow:

parent level of overlay	the original area code (in these examples the 818 area code).
child level of overlay	a new overlaid area code (in these examples the 626 area code is the first *child level*).
overlay area	a single geographic area which contains the parent level and all of the child overlay levels.
intra-overlay area calls	refers to calls where the origin and the destination area codes both reside within the geographic overlay area.
abbreviated dialing	dialing which requires fewer than 11 digits to complete (abbreviated dialing within an area code is typically 7 digits).
timing	as used in this *Unified Dialing Plan:* an industry determined interval (probably 3 - 4 seconds) invoked after the 7th digit of a phone number is dialed. If this interval elapses and no further digits have been entered, the phone system switch will run an analysis on the 7 digit number that has been dialed. This technique will allow customers to dial valid phone numbers of varying lengths (7 or 8 digits).

In Brief:

I am proposing a method of implementing an overlay, in which local dialing within the overlay area is facilitated by:

- *'7 digit' + timing dialing* for intra-overlay area calls directed to the parent level of the overlay from any level of the overlay. This will ensure that dialing patterns to existing numbers (parent level numbers) will not be disrupted with the introduction of an overlay.

- *'8 digit' (7 + suffix) dialing* for intra-overlay area calls directed to any level of the overlay (parent or child). This would be a '7 + x' system, where the 8th digit is a suffix and acts as an overlay selector. Each area code within the overlay area will be assigned a unique identifier, which will then be used as the '8th digit suffix' or 'overlay selector' in dialing. **This feature unifies all levels of the overlay area with consistent abbreviated dialing, regardless of the originating or destination overlay area codes.**

- *1+10 digit dialing* (permissive not mandatory) throughout the entire overlay area.

Refer to Fig. 4A at the end of this report for an illustration of how these three dialing methods are integrated in the Unified Dialing Plan for Overlays.

> *This plan is applicable to any area where an overlay might need to be implemented, but for ease of illustration I will describe it hypothetically using 818 as the original area code, and 626 as the first new 'overlaid' level.*

How the plan would be implemented:

Within the overlay area only (example: the hypothetical 818/626 overlay area):

The suffixes for intra-overlay area dialing would be determined as follows:

- All 818 numbers would receive a suffix of '0' (representing the parent level).
- All 626 numbers would receive a suffix of '1' (representing the first child level).
- Any future overlay levels would receive a suffix of '2' - '9' in that order. This framework will allow for easy future expansion when more numbers are needed.

For example:

123-4567-0 = 1-818-123-4567	Within the 818/626 overlay area, either style is valid.
123-4567-1 = 1-626-123-4567	Within the 818/626 overlay area, either style is valid.
123-4567-2 = 1-???-123-4567	Within the 818/626/??? overlay area, either style will be valid (for a third area code).

Further:

- All 818 numbers can also be reached from any level of the overlay area simply by dialing the original 7 digit number + waiting for a short timing delay. This feature of the Unified Dialing Plan makes the introduction of an overlay completely non-disruptive to the existing dialing patterns of the original area code.

For example:

123-4567+timing delay = 1-818-123-4567	Defaults to 818 + 7 digit number to accommodate existing dialing patterns. The industry would determine the appropriate length for this timing delay.

From within the overlay area, the dialing plan would operate as follows:

- Once 7 digits are received, the call will be considered legal, however the system will wait an additional timing period (to be determined by the industry) for a possible 8th digit which technically is the 'overlay selector'.
- ..... If 8 digits are received, the phone system switch will run an analysis on the number, examining the 8th digit first.
- ..... If the 8th digit is a '0', the call will be directed to the 818 level of the overlay.
- ..... If the 8th digit is a '1', the call will be directed to the 626 level of the overlay.
- ..... If the industry determined 'timing delay' elapses before the 8th digit is received, a suffix of '0' is assumed, and the 7 digit call will automatically be directed to the 818 level of the overlay.
- If an industry determined 'timing delay' elapses and less than 7 digits have been received, the call is considered abandoned, and the standard 'try again' message is given.
- Once the proper overlay level is determined and the call is routed to the proper area code within the overlay area, the suffix is discarded, leaving a standard 7 digit number to be routed by traditional 7 digit switching logic.
- To summarize, all '7 digit + timing' or '7 digit + suffix' calls are converted to 1+10 numbers by the phone system, and are then transparently routed to the proper overlay level.

Note: 1 + 10 digit dialing for intra-overlay area calls would also be supported, if that were how people preferred to dial, but it would not be mandatory.

Handling local or toll calls going outside the 818/626 overlay area:

Mandatory 1 + 10 digit dialing would be used for dialing to any number outside of the 818/626 overlay area, whether it be local or toll. If someone in the overlay area were to accidentally use the '1 + 10 + x' format (because they had become accustomed to dialing 8 digit phone numbers) it wouldn't matter because in 1 + 10 dialing, all extra digits beyond 1+10 are ignored, just as it has always been.

Handling local or toll calls coming into the 818/626 overlay area:

When calling from outside 818/626, standard 1 + 10 digit dialing would be used to dial to any number inside the 818/626 overlay area. If someone from outside the 818/626 overlay area were to accidentally use the '1 + 10 + x' format (because they were unclear as to the correct dialing rules in the overlay area) it wouldn't matter because in 1 + 10 dialing, all additional digits are ignored.

Directory listings:

In the 818/626 telephone directories the numbers will be listed as follows:

legend:	7 digit + '0' = 818 area code	7 digit + '1' = 626 area code
818 number	999-3360-0	
626 number	956-2200-1	
213 number	213-462-2110	*out of 'overlay area' number*
626 number	347-9426-1	
818 number	883-6234-0	
818 number	830-9339-0	
818 number	982-7417-0	
626 number	889-4509-1	
310 number	310-244-0177	*out of 'overlay area' number*

Because no area codes would need to be listed for intra-overlay area phone numbers, the 'new' 626 numbers (which a new business might have) will not stand out as red flags to customers looking for experienced services. Only out of 'overlay area' phone numbers would stand out, the same as they already do in current directories.

To further remind people how the system works, a sticker could be supplied to customers in the 818/626 area that said:

8 digit dialing supported:
7 digit phone number + 0 = 818 area code
7 digit phone number + 1 = 626 area code

How to inform the public on how to use the new plan:

On and after the date that the overlay plan is to take effect:

For calls made <u>from</u> any telephone within the 818/626 overlay area:

- **<u>to</u> any phone number in the <u>818</u> area code overlay level (the <u>parent</u> level of the overlay area):**
  You may dial all 818 area code telephone numbers exactly as you always have in the past using just 7 digits. After a short delay your call will go through.
  <u>You may avoid this delay by dialing the 7 digit number + 0</u>.
- **<u>to</u> any phone number in the <u>626</u> area code overlay level (the first <u>child</u> level of the overlay area):**
  You must dial all new 626 area code telephone numbers as the 7 digit number + 1.
- **<u>to</u> phone numbers in area codes <u>outside</u> of the 818/626 overlay area:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

For calls made <u>from area codes outside</u> of the 818/626 overlay area:

- **<u>to</u> any area code within the 818/626 overlay area:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

Conclusion:

This plan addresses customers' objections to using overlays which they fear would result in confusion and/or the inconvenience of having to dial 11 digits just to call across the street.

To ease the public's transition to overlays, simple 7 digit dialing to all existing parent level numbers is maintained (this is also a benefit for children and automatic dialing systems).

The plan allows for abbreviated '7 digit + suffix' dialing from and to any phone within the entire overlay area, without affecting how 1 + 10 digit calls '<u>out-of</u>', '<u>into</u>', or <u>within</u> the overlay area are handled. It is expandable to 10 levels (0-9) of overlay within a single geographic dialing area, allowing for painless addition of many new numbers in the future.

Additionally, the new style of directory listings won't be a disadvantage for new businesses.

For the public, this plan will have the psychological appeal of being a new 'high tech' solution to the challenges presented by splits and standard overlays. It answers all of the public's concerns about overlays, and will leave citizens and businesses with a feeling that something is finally being done to protect them from the expense and disruption that traditionally comes with area code exhaust and relief.

When the advantages of this plan are weighed against the disadvantages of area code splits and standard implementations of overlays (expense, disruption, confusion, inconvenience, permanent impact on the size of geographic dialing areas, etc.), this uniform dialing plan for overlays clearly makes sense as a solution for both the short and the long term.

This system can be applied to any area that is faced with the need to introduce an overlay. If this system becomes a standard, over time large areas of North America would be able to locally take advantage of this plan without affecting how any 'out of area' or 'into area' dialing and switching is handled.

Illustrations:

Using the 818/626 area code as an example, the attached diagrams illustrate how dialing patterns are impacted by various forms of area code relief.

- *Figure 1A* shows the established dialing patterns in an area code prior to implementing relief.
- *Figure 2A* shows how an area code split disrupts established dialing patterns.
- *Figure 3A* shows how a standard overlay impacts established dialing patterns and how its overlay levels are not united by a distinctive dialing plan.
- *Figure 4A* shows that *The Unified Dialing Plan for Overlays* is non-disruptive to established dialing patterns AND unifies all levels of the overlay area with a simple 8 digit dialing system.

Submitted by:

Gilbert Yablon
The Unified Dialing Plan for Overlays
21914 Dumetz Rd.
Woodland Hills, CA 91364

818-999-1070-0 - (voice)
818-956-2200-0 - (alt. voice)
818-956-3298-0 - (fax)

An Alternative to Area Code Splitting

proposed by: Gilbert Yablon
revised 8/15/96

Introduction:
My plan is a non-disruptive method of adding phone numbers to existing area codes. It offers simplicity, low cost and convenience to both the phone company and the consumer.

Features:
1) Area code boundaries will not need to be changed.
2) All existing numbers will remain unchanged.
3) Will not cause the inconvenience and expense generated by an area code split.
4) Will not cause the confusion generated by the introduction of an overlay.

5) All new numbers will share the original 3 digit area code.
6) At least twice as many phone numbers will be immediately available with an easy path to adding more at any time in the future.

How it will work:
My plan is to implement a pseudo 8 digit dialing plan only into areas that need more phone numbers. In practice this implementation will be transparent to the user while in execution (at the switching level) it will actually function as an overlay. The 8th digit (0 or 1) will be treated as a suffix, and will determine which overlay is accessed. The actual switching at the local level would still be based on traditional 7 digit dialing.

NOTE: customers in area codes in which my plan has not been implemented, do not need to use 8 digit numbers when dialing local calls or when dialing out of area calls, unless those calls are being sent to an 8 digit dialing area.

For LOCAL calls:
example - local calls within the 818 area code:
•on the switching level:

Area code 818 will be known as **818-A***(original)* and **818-B***(overlay)*.

After the central office receives the traditional 7 digits, there will be a courtesy pause of 3 to 7 seconds, which will allow the user to enter a '0' or '1' or nothing.

If no digit is entered, the system assumes '0' and completes the call to 818-A. This feature allows all existing phone numbers to still be accessible by dialing only the original 7 digit number.

If a '0' is entered, the system also completes the call to 818-A.

If a '1' is entered, the system completes the call to 818-B.

Once the number arrives at 818-A or 818-B, it is switched at the central office as a normal 7 digit number (the new 8th digit is ignored at this level - it was only necessary in determining which overlay to access).

•on the dialing level:

818-A can be accessed the same as always, by dialing only the 7 digit phone number. The 8th digit '0' could be added by the user, but it is not mandatory - thus no directories, stationary, auto dialing systems, etc. need to be changed.

818-B will be accessed when the user supplies a '1' for the 8th digit. These new

numbers will alwa[redacted]e known to the users as 8 digit ph[redacted]numbers, and so no existing data will need to be updated.

For calls coming in from OUT OF AREA:
example - calling into the 818 area code from another area code:

•<u>on the switching level</u>:

When an out of area call is initiated with a 0 or a 1 (to access long distance services), the phone system normally listens for the completion of a 10 digit number. i.e. 818-956-3360.

For my plan to be implemented, the system will listen for the traditional 10 digits, and will then supply a courtesy pause of 3 to 7 seconds which will give the opportunity for the user to enter an 11th digit (if necessary). The 10 or 11 digit phone number will then be routed to the destination area code.

If the call was intended for 818, when it arrives at 818 the number is tested for a '0' or '1' suffix in the same manner as described for local calls above.

If there is no 8th digit, the system assumes '0' and completes the call to 818-A.

If the 8th digit is '0', the system also completes the call to 818-A.

If the 8th digit is '1', the system completes the call to 818-B.

Once the number arrives at 818-A or 818-B, it is switched at the central office as a normal 7 digit number.

•<u>on the dialing level</u>:

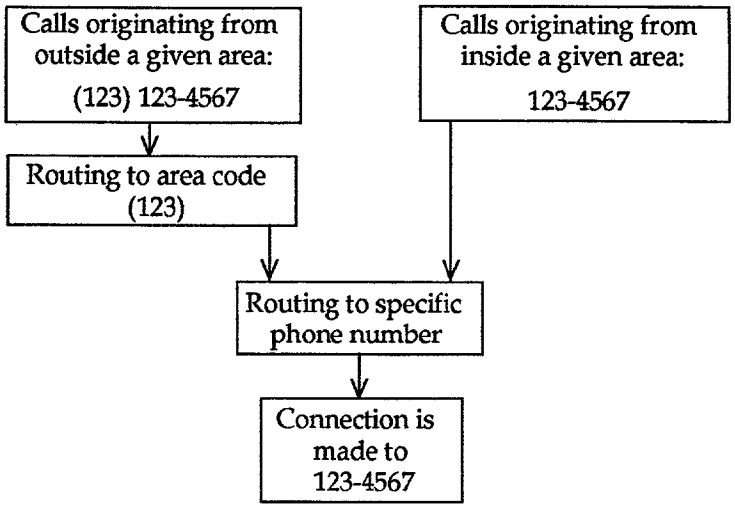
818-A can be accessed the same as always, by dialing only 1-818+the original 7 digit phone number. The 8th digit '0' can be added by the user, but it is not mandatory - thus no out of town directories, auto dialing systems, etc. need to be updated.

818-B will be accessed when the user dials 1-818+the 8 digit phone number, using a '1' for the 8th digit. These new numbers will always be known to the users as 8 digit phone numbers, and so there is no existing data that will need to be updated.

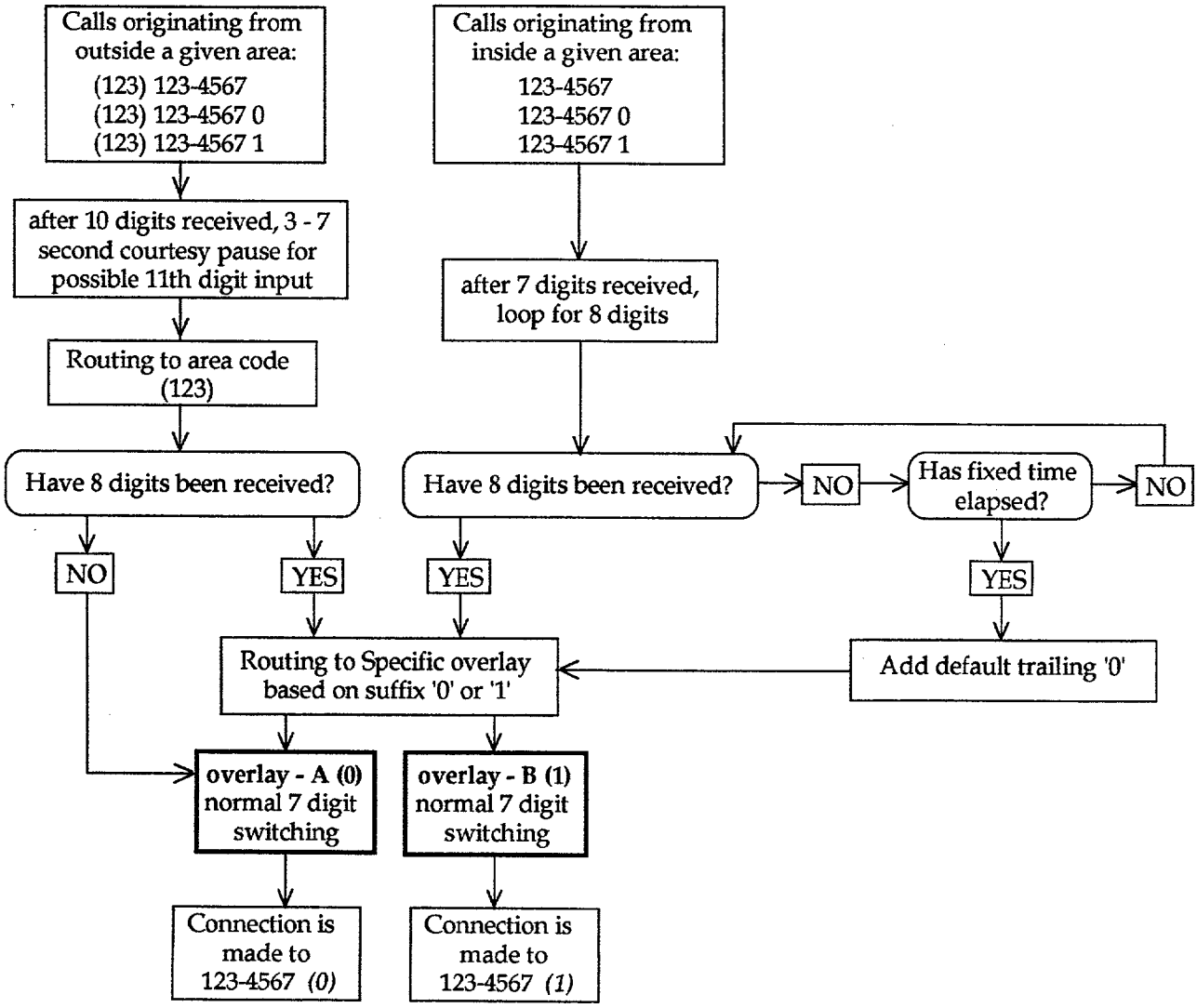
The Future:
Future demands would allow for the implementing of overlays 2 through 9 as needed.

Atlernativ[redacted]Area Code Splitting
Fun[redacted]nal Diagram
proposed by: Gilbert Yablon
revised 8/15/96

Under the current 3 digit area code + 7 digit phone number system:



Under my proposed 3 digit area code +pseudo 8 digit/overlay phone number system:



Alternative to Area Code Splitting
Number Allocation Method Diagram
proposed by: Gilbert Yablon
revised 8/15/96

Here is how the new numbers would be allocated:

(123) 123-4567 — current number now.

(123) 123-4567 0 — current number under my proposed plan.
note: the trailing '0' would not need to be entered by the user. Phone company equipment will automatically add the '0' after a fixed time (3 - 7 seconds) to complete the call if only 7 digits have been entered by the user.

(123) 123-4567 1 — first generation of new numbers under my proposed plan.

and if more numbers are later needed...
(123) 123-4567 2
(123) 123-4567 3
(123) 123-4567 4
(123) 123-4567 5
(123) 123-4567 6
(123) 123-4567 7
(123) 123-4567 8
(123) 123-4567 9

note: the trailing '1 - 9' would need to be entered by the user. Since these are new numbers, they will always be known as 8 digit numbers from the time they are first issued, and will be memorized, listed in directories and dialed as such.

At some point far into the future even more numbers might be needed. The same non-disruptive system could be used to expand again at that time.

(123) 123-4567 00 — current number far into the future.
note: neither of these trailing '0's would need to be entered. If only 7 digits were entered, the phone company would automatically add the '0' or '00' after the fixed time. Thus, the original 7 digit number could still be reached by only dialing the original 7 digits.

(123) 123-4567 10 — first generation of new numbers far into the future.
(123) 123-4567 20
(123) 123-4567 30
(123) 123-4567 40
(123) 123-4567 50
(123) 123-4567 60
(123) 123-4567 70
(123) 123-4567 80
(123) 123-4567 90

note: the new trailing '0' would not need to be dialed. Phone company equipment would automatically add the trailing '0' just as it would for the original 7 digit numbers. So, no directories or habits would need updating even for these numbers.

(123) 123-4567 11 (12 13 14 15 16 17 18 19) second generation of new numbers.
(123) 123-4567 21 (22 23 24 25 26 27 28 29)
(123) 123-4567 31 (32 33 34 35 36 37 38 39)
(123) 123-4567 41 (42 43 44 45 46 47 48 49)
(123) 123-4567 51 (52 53 54 55 56 57 58 59)
(123) 123-4567 61 (62 63 64 65 66 67 68 69)
(123) 123-4567 71 (72 73 74 75 76 77 78 79)
(123) 123-4567 81 (82 83 84 85 86 87 88 89)
(123) 123-4567 91 (92 93 94 95 96 97 98 99)

A/PROV.

PTO/SB/16 (11/95) (Modified 1997 Legalsoft)
Approved for use through 01/31/98. OMB 0651-0037
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

(Large Entity)

This is a request for filing a **PROVISIONAL APPLICATION FOR PATENT** under 37 CFR 1.53 (b)(2).

Docket Number	6433-101	Type a plus sign (+) inside this box →	+

INVENTOR(s)/APPLICANT(s)

LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)
YABLON	GILBERT		21914 Dumetz Road Woodland Hills, California 91364

TITLE OF THE INVENTION (280 characters max)

UNIFIED DIALING SYSTEM FOR TELEPHONE OVERLAYS

CORRESPONDENCE ADDRESS

Robbins, Berliner & Carson, LLP
201 North Figueroa Street, 5th Floor
Los Angeles

STATE	CA	ZIP CODE	90012-2628	COUNTRY	United States

ENCLOSED APPLICATION PARTS *(check all that apply)*

- [X] Specification — *Number of Pages* 26
- [ ] Drawing(s) — *Number of Sheets*
- [ ] Other (specify)

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT *(check one)*

- [ ] A check or money order is enclosed to cover the filing fees
- [X] The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number: 18-1647

FILING FEE AMOUNT: $150.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

- [X] No.
- [ ] Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE _____ Date May 28 1997

TYPED or PRINTED NAME John M. May REGISTRATION NO. *(if appropriate)* 26,200

- [ ] Additional inventors are being named on separately numbered sheets attached hereto

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, DC 20231

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10) Applicant(s): **Gilbert Yablon**			Docket No. **6433-101**
Serial No.	Filing Date **May 28, 1997**	Examiner	Group Art Unit

Invention: **UNIFIED DIALING SYSTEM FOR TELEPHONE OVERLAY**

I hereby certify that this **Provisional Application for Patent Cover Sheet and Attachements**
(Identify type of correspondence)
is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: The Assistant Commissioner for Patents, Washington, D.C. 20231

on **May 28, 1997**
(Date)

CAROLYN FIRESTONE
(Typed or Printed Name of Person Mailing Correspondence)

Carolyn Firestone
(Signature of Person Mailing Correspondence)

EM578438402US
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5/26/97

Gilbert Yablon
21914 Dumetz Rd.
Woodland Hills, CA 91364

Provisional Patent Application Items Pertaining to:

Non-Disruptive methods of adding new phone numbers to exhausted geographic areas.

1) Unified Plan as it is written in presentation form.

2) Overlay Enhanced Personal Telephones which basically operate with the same logic that is outlined in the plan.

If dialing starts with a 0 or a 1, all of the dialed digits will be passed directly through the system, since this is the indicator that the suffix system will not be used.

If dialing starts with other than a 0 or a 1:

All digits are stored in the phone's special 'overlay system memory', and none are passed through until either:

1) 7 digits have been entered + a timing interval has elapsed, in which case, the area code for the parent level of the overlay is output by the phone, followed by the 7 digits that were stored in the 'overlay system memory'.

2) 8 digits have been entered, in which case the phone examines the 8th digit and determines which level of the overlay the 8th digit is calling for. The proper area code is output, followed by the first 7 digits that were stored in the 'overlay system memory'.

Instead of using a special phone, a device could be added to an existing phone between the phone and the phone jack. The device would send dial tone to the phone if dial tone were available from the jack - but it would not pass along the dialed characters until they were all dialed, where upon it would analyze the number and take the proper actions as outlined above.

With these special phones or devices, the area codes that the 8th digit determines could be programmed by the user, i.e.: 0=818 1=626 2=213 3=805. The user can put in any coding they want, and the suffixes don't necessarily have to refer to an actual overlay level. They might refer to any area code that the user feels would be convenient to be able to access with just a single digit at the end of a 7 digit phone number.

3) The plan for what to do when a Unified Overlay Area is full with all 10 area codes (0-9) and a new level is required for relief:

In the event that this should happen, the same Unified Dialing Plan logic would apply to a 2 digit suffix system:

A '0' would be added to each of the original suffixes, i.e.: 00 10 20 30 40 50 60 70 80 90. The same type of timing rules will apply when this new level is added - after 8 digits are entered, a 3 second delay will invoke the X0 level of the overlay. The delay can be avoided by simply dialing all 9 digits. Again, this timing method makes the system non-disruptive.

If only 7 digits are entered, a 3 second delay will still invoke the 00 level - so 7 digit dialing is still maintained to the original parent level. Again, non-disruptive.

01 would be the first new level, followed by 11 21 31 41 51 61 71 81 91. This is most fair. Even though the 00 level will be the first to have to dial 9 digits, original 00 level numbers will still be reachable by dialing 7, 8 or 9 digits.

4) **A non-disruptive plan for what to do when all 1000 of the original 3 digit (XXX) area codes are used up:**
Introduce new 5 digit area codes, where the 4th digit will always be a 0 or a 1. This will create a system for adding 2000 more area codes without disrupting how existing numbers are dialed. The description follows:

All 1000 original area codes will be able to be known as either the XXX00 or as the original XXX. All new area codes will be XXX01 - XXX09 or XXX10 - XXX19

When the dialing doesn't start with a 0 or a 1 the phone system will assume the number is being dialed without an area code prefix, so it will treat the call as a 7 digit call or a Unified Dialing Plan for Overlays 7, 8 or 9 digit call.

If the dialing does start with a 0 or 1 then it is assumed that the number following will be either a 3 digit or 5 digit area code.

If the 4th digit that follows the 'original 0 or 1' is not a 0 or a 1 then it is assumed that an original 3 digit area code is being used, and the call will be able to be completed without dialing the full 5 digits for the area code, which makes this method non-disruptive. Dialing to these original 1000 established area codes will always be able to be completed the same as it is today - with 1 + XXX + 7 digit number -- or--optionally with 1 + XXX00 + 7 digit number.

All new 5 digit area codes will be recognized because of the 0 or 1 in the 4th position, and these numbers will only be reachable by dialing the full 5 digit area codes.

Alternative Version dated 8/15/96:
This is an old discussion which may be too expensive to implement, but I like it better in terms of overall simplicity to the user. I have attached the description of this plan separately.

Further:
Concept of just adding an 8th digit to the end of all numbers on a national scale (even without any of the other implementations I have suggested) with current 7 digit numbers evolving to XXX-1234567-0. The idea being that this method of numbering would be the least disruptive since computers or possibly phone systems could be programmed to simply add the 0 to all numbers in a data base, or if timing could be used, these numbers would default through the same way they do in the Unified Dialing Plan. New numbers would be entered into data bases as 8 digit numbers from the beginning, so any 7 digit number that might be dialed could automatically default to 7 digits + 0.

Unified Dialing Plan For Overlays
Number Allocation Method Diagram
proposed by: Gilbert Yablon revised 5/25/97

Note: (NAA) - (N J J) are distinct 3 digit area codes.
N..... = any number 2-9
A,B,C,D,E,F,G,H,I,J = any numbers 0-9

Here is how the new numbers would be allocated:

(NAA) N23-4567 — current number now.

(NAA) N23-4567 0 — current number under my proposed plan.
note: the trailing '0' would not need to be entered by the user. Phone company equipment will automatically add the '0' after a fixed time (3 - 7 seconds) to complete the call if only 7 digits have been entered by the user. This feature makes the plan completely non-disruptive.

(NBB) N23-4567 1 — first generation of new numbers under my proposed plan.

and if more numbers are later needed...
(NCC) N23-4567 2
(NDD) N23-4567 3
(NEE) N23-4567 4
(NFF) N23-4567 5
(NGG) N23-4567 6
(NHH) N23-4567 7
(N I I) N23-4567 8
(N J J) N23-4567 9

note: the trailing '1 - 9' would need to be entered by the user. Since these are new numbers, they will always be known as 8 digit numbers from the time they are first issued, and will be memorized, listed in directories and dialed as such.

Since these area codes would be grouped in a single overlay area, dialing within the overlay area to any of these area codes could be accomplished simply by dialing the 7 digit number + the appropriate siffix under the Unified Dialing Plan for Overlays.

At some point far into the future even more numbers might be needed. The same non-disruptive system could be used to expand again at that time.

(NAA) N23-4567 00 — current number far into the future.
note: neither of these trailing '0's would need to be entered. If only 7 digits were entered, the phone company would automatically add the '0' or '00' after the fixed time. Thus, the original 7 digit number could still be reached by only dialing the original 7 digits.

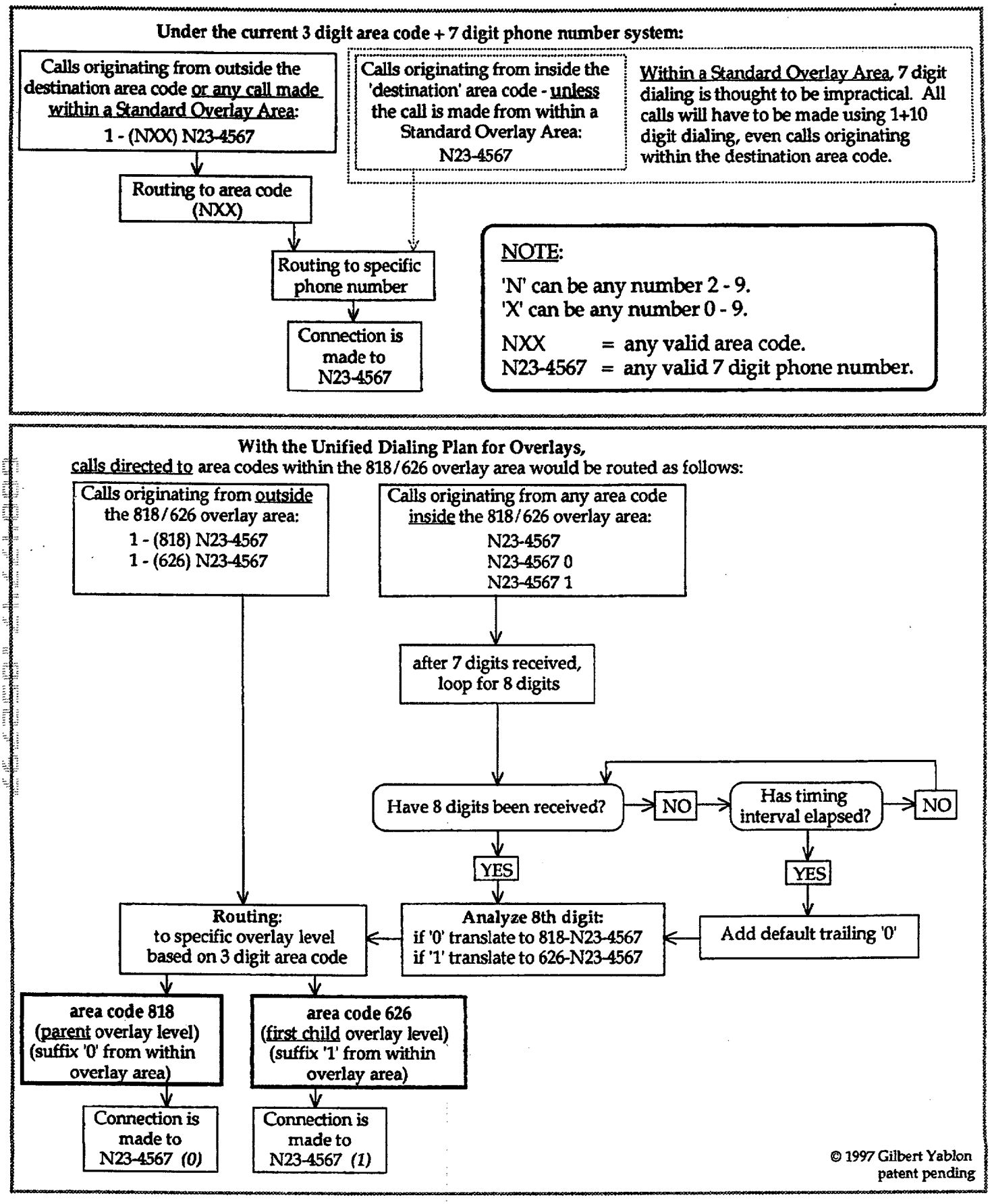
(NBB) N23-4567 10 — first generation of new numbers far into the future.
(NCC) N23-4567 20
(NDD N23-4567 30
(NEE) N23-4567 40
(NFF) N23-4567 50
(NGG) N23-4567 60
(NHH) N23-4567 70
(N I I) N23-4567 80
(N J J) N23-4567 90

note: the new trailing '0' would not need to be dialed. Phone company equipment would automatically add the trailing '0' just as it would for the original 7 digit numbers. So, no directories or habits would need updating even for these numbers.

(NAA) N23-4567 01 (02 03 04 05 06 07 08 09) second generation of new numbers.
(NBB) N23-4567 11 (12 13 14 15 16 17 18 19)
(NCC) N23-4567 21 (22 23 24 25 26 27 28 29)
(NDD) N23-4567 31 (32 33 34 35 36 37 38 39)
(NEE) N23-4567 41 (42 43 44 45 46 47 48 49)
(NFF) N23-4567 51 (52 53 54 55 56 57 58 59)
(NGG) N23-4567 61 (62 63 64 65 66 67 68 69)
(NHH) N23-4567 71 (72 73 74 75 76 77 78 79)
(N I I) N23-4567 81 (82 83 84 85 86 87 88 89)
(N J J) N23-4567 91 (92 93 94 95 96 97 98 99)

The Unified Dialing Plan For Overlays Functional Diagram

using 818/626 as the hypothetical overlay area
proposed by: Gilbert Yablon revised 5/25/97



Currently Existing Area Code

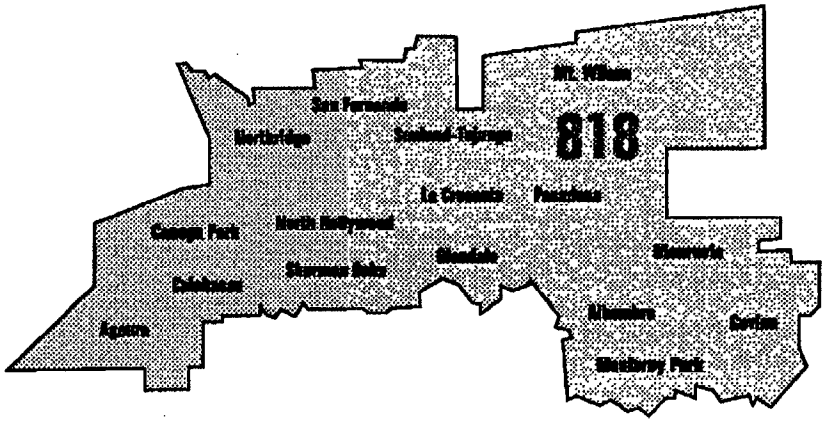


Fig.1: Communities Involved

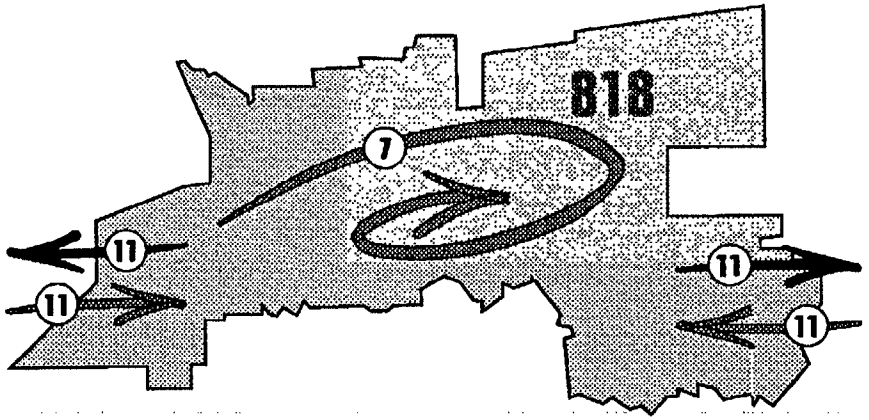


Fig.1A: Dialing Patterns

Dialing Options

7 Digit Dialing
Within 818
123-4567

11 Digit Dialing
Into Area
1+818+123-4567

Out of Area
1+NXX+123-4567

This map shows the established dialing patterns of an area code before being impacted by area code relief. These dialing patterns will be disrupted by either a split or a standard overlay.

Approved Area Code Split [effective June 1997]

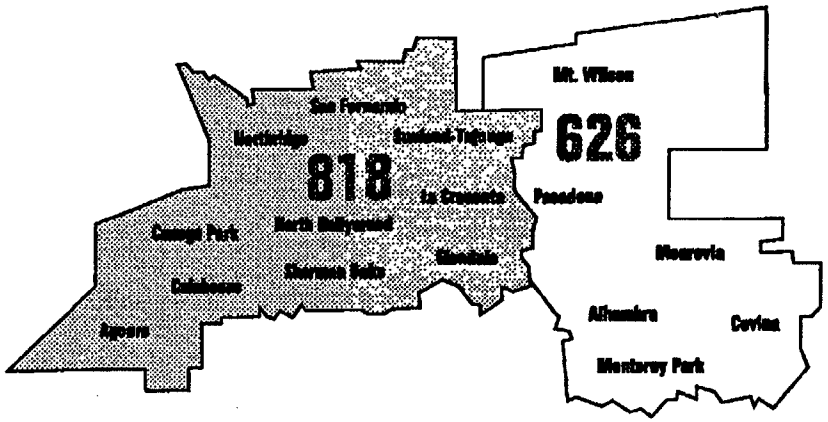


Fig.2: Communities Involved

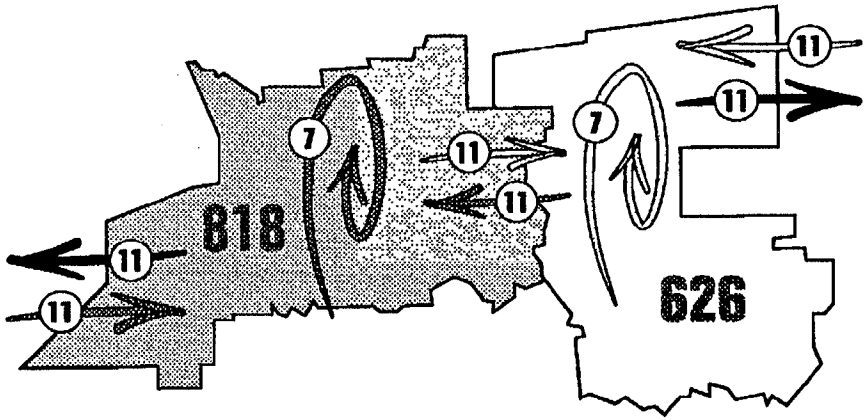


Fig.2A: Dialing Patterns

Dialing Options

7 Digit Dialing
Within 818
123-4567

or

Within 626
123-4567

11 Digit Dialing
Into Area
1+818+123-4567
1+626+123-4567

Out of Area
1+NXX+123-4567

Between 818/626
1+818+123-4567
1+626+123-4567

Implementing a split greatly impacts dialing for calls both within and into the original NPA. This method of relief is expensive for business and disruptive to all customers, both within and outside of the affected area.

The Standard Overlay Method

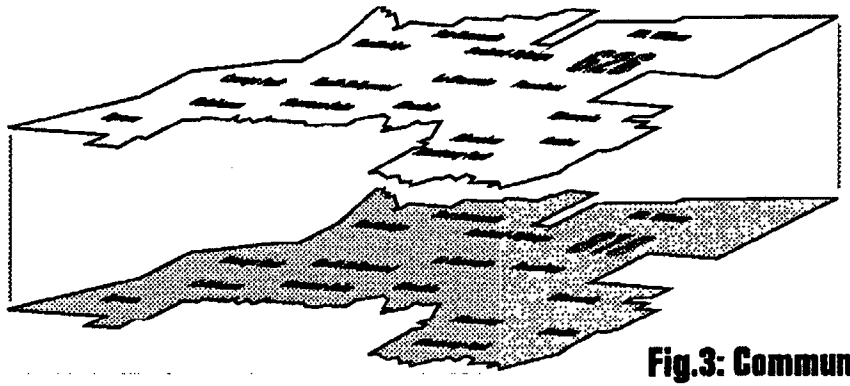


Fig.3: Communities Involved

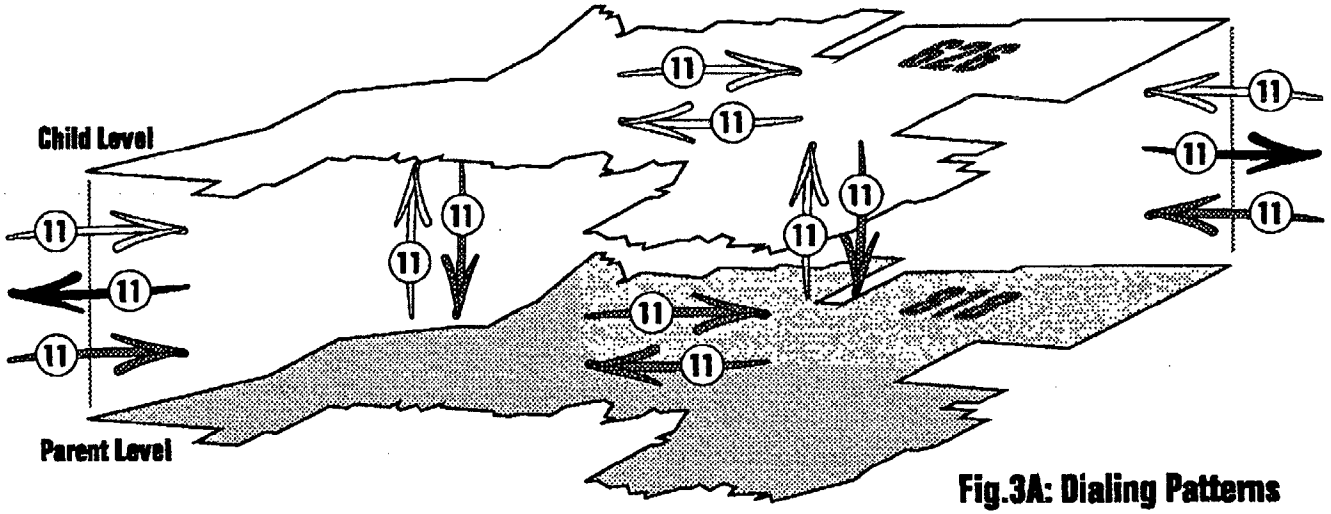


Fig.3A: Dialing Patterns

Dialing Options

7 Digit Dialing
Thought to be impractical for this Overlay Method

Mandatory 11 Digit Dialing
Into Area
1+818+123-4567
or 1+626+123-4567

Out of Area
1+NXX+123-4567

Within 818/626 Area
1+818+123-4567
or 1+626+123-4567

With abbreviated dialing abandoned, the overlay levels are not unified by a distinctive dialing plan. The concern that this mix of area codes will cause hardship and confusion for citizens has prevented overlays from becoming widely accepted.

The Unified Dialing Plan for Overlays

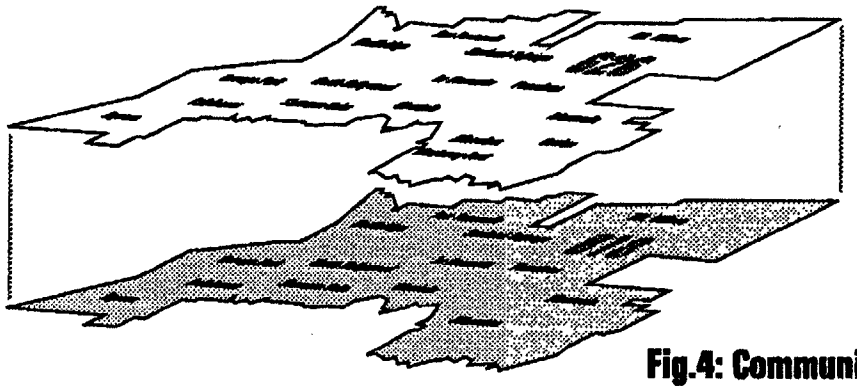


Fig.4: Communities Involved

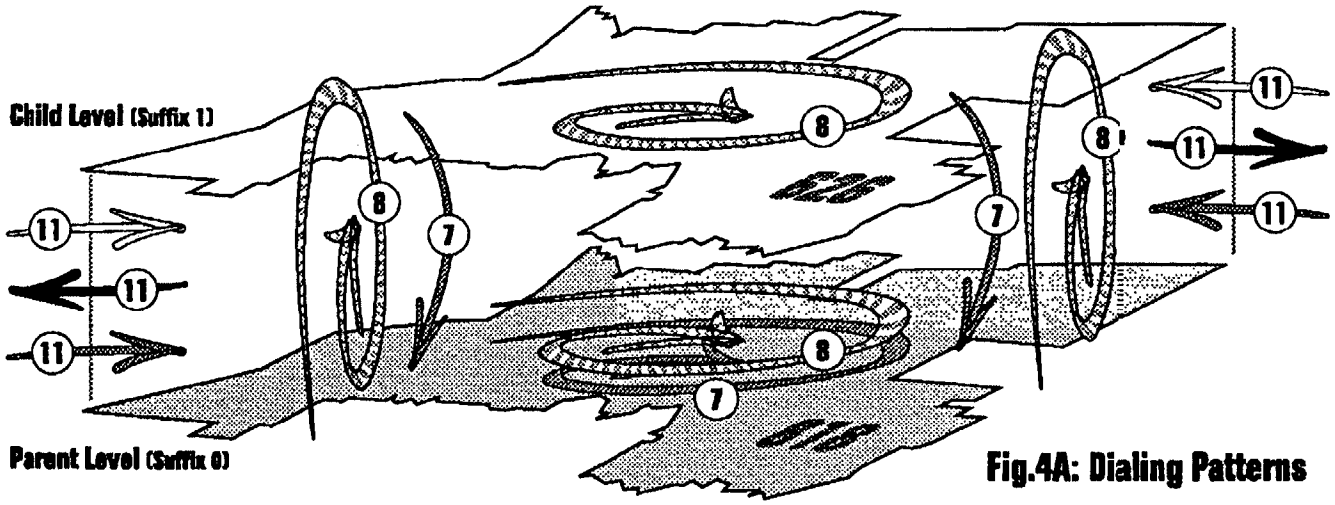


Fig.4A: Dialing Patterns

Dialing Options

7 Digit Dialing - Preserved

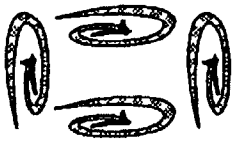
From 626 to 818

or

Within 818

123-4567

Unified - 8 Digit Dialing (7+X)



Within 818/626 Area

123-4567+8 (for 818)

123-4567+1 (for 626)

11 Digit Dialing

Into Area

1+818+123-4567

or 1+626+123-4567

Out of Area

1+NXX+123-4567

Note: For Optional 11 Digit Dialing Within 818/626 Area Refer to Fig. 3A

This overlay method provides for long term relief AND maintains the intregity of the original dialing area by:

1) Preserving established 7 digit dialing to all parent level numbers from any level within the overlay area.
2) Unifying all levels of the overlay with a simple 8 digit (7+suffix) dialing system.
3) Allowing for optional (not mandatory) 11 digit dialing between levels of the overlay.

'The Unified Dialing Plan for Overlays'

A Dialing Plan which Supports the Implementation of Overlays for Area Code Relief
proposed by Gilbert Yablon
revised 5/25/97

The following plan describes a dialing system which supports the implementation of overlays for area code relief by eliminating the public's main objections to them. The plan preserves established dialing patterns to existing numbers, and unifies all levels of an overlay area with a consistent abbreviated dialing method. Long term relief is provided for exhausted area codes without impacting dialing in any other areas of the North American Numbering Plan (NANP).

This plan offers the following advantages over standard overlays:

- It greatly reduces the confusion and inconvenience that is associated with having multiple area codes within individual neighborhoods and households.
- Because the plan is non-disruptive to existing 7 digit and 1+10 digit dialing patterns:
  > no one is put in jeopardy by a change to their local dialing plan (especially children),
  > and it ensures that existing auto dialers can complete calls without reprogramming.
- It reduces the likelihood that the new overlay area code will be a stigma for new businesses.
- It ensures that costs to businesses and disruption overall will be kept to a minimum.

Defining these terms will be helpful for the discussions that follow:

parent level of overlay	the original area code (in these examples the 818 area code).
child level of overlay	a new overlaid area code (in these examples the 626 area code is the first *child level*).
overlay area	a single geographic area which contains the parent level and all of the child overlay levels.
intra-overlay area calls	refers to calls where the origin and the destination area codes both reside within the geographic overlay area.
abbreviated dialing	dialing which requires fewer than 11 digits to complete (abbreviated dialing within an area code is typically 7 digits).
timing	as used in this *Unified Dialing Plan:* an industry determined interval (probably 3 - 4 seconds) invoked after the 7th digit of a phone number is dialed. If this interval elapses and no further digits have been entered, the phone system switch will run an analysis on the 7 digit number that has been dialed. This technique will allow customers to dial valid phone numbers of varying lengths (7 or 8 digits).

In Brief:

I am proposing a method of implementing an overlay, in which local dialing within the overlay area is facilitated by:

- *'7 digit' + timing dialing* for intra-overlay area calls directed to the parent level of the overlay from any level of the overlay. This will ensure that dialing patterns to existing numbers (parent level numbers) will not be disrupted with the introduction of an overlay.

- *'8 digit' (7 + suffix) dialing* for intra-overlay area calls directed to any level of the overlay (parent or child). This would be a '7 + x' system, where the 8th digit is a suffix and acts as an overlay selector. Each area code within the overlay area will be assigned a unique identifier, which will then be used as the '8th digit suffix' or 'overlay selector' in dialing. **This feature unifies all levels of the overlay area with consistent abbreviated dialing, regardless of the originating or destination overlay area codes.**

- *1+10 digit dialing* (permissive not mandatory) throughout the entire overlay area.

Refer to Fig. 4A at the end of this report for an illustration of how these three dialing methods are integrated in the Unified Dialing Plan for Overlays.

> *This plan is applicable to any area where an overlay might need to be implemented, but for ease of illustration I will describe it hypothetically using 818 as the original area code, and 626 as the first new 'overlaid' level.*

How the plan would be implemented:

Within the overlay area only (example: the hypothetical 818/626 overlay area):

The suffixes for intra-overlay area dialing would be determined as follows:

- All 818 numbers would receive a suffix of '0' (representing the parent level).
- All 626 numbers would receive a suffix of '1' (representing the first child level).
- Any future overlay levels would receive a suffix of '2' - '9' in that order. This framework will allow for easy future expansion when more numbers are needed.

For example:

123-4567-0 = 1-818-123-4567	Within the 818/626 overlay area, either style is valid.
123-4567-1 = 1-626-123-4567	Within the 818/626 overlay area, either style is valid.
123-4567-2 = 1-???-123-4567	Within the 818/626/??? overlay area, either style will be valid (for a third area code).

Further:

- All 818 numbers can also be reached from any level of the overlay area simply by dialing the original 7 digit number + waiting for a short timing delay. This feature of the Unified Dialing Plan makes the introduction of an overlay completely non-disruptive to the existing dialing patterns of the original area code.

For example:

123-4567+timing delay = 1-818-123-4567	Defaults to 818 + 7 digit number to accommodate existing dialing patterns. The industry would determine the appropriate length for this timing delay.

From within the overlay area, the dialing plan would operate as follows:

- Once 7 digits are received, the call will be considered legal, however the system will wait an additional timing period (to be determined by the industry) for a possible 8th digit which technically is the 'overlay selector'.
- ..... If 8 digits are received, the phone system switch will run an analysis on the number, examining the 8th digit first.
- ..... If the 8th digit is a '0', the call will be directed to the 818 level of the overlay.
- ..... If the 8th digit is a '1', the call will be directed to the 626 level of the overlay.
- ..... If the industry determined 'timing delay' elapses before the 8th digit is received, a suffix of '0' is assumed, and the 7 digit call will automatically be directed to the 818 level of the overlay.
- If an industry determined 'timing delay' elapses and less than 7 digits have been received, the call is considered abandoned, and the standard 'try again' message is given.
- Once the proper overlay level is determined and the call is routed to the proper area code within the overlay area, the suffix is discarded, leaving a standard 7 digit number to be routed by traditional 7 digit switching logic.
- To summarize, all '7 digit + timing' or '7 digit + suffix' calls are converted to 1+10 numbers by the phone system, and are then transparently routed to the proper overlay level.

Note: 1 + 10 digit dialing for intra-overlay area calls would also be supported, if that were how people preferred to dial, but it would not be mandatory.

Handling local or toll calls going outside the 818/626 overlay area:

Mandatory 1 + 10 digit dialing would be used for dialing to any number outside of the 818/626 overlay area, whether it be local or toll. If someone in the overlay area were to accidentally use the '1 + 10 + x' format (because they had become accustomed to dialing 8 digit phone numbers) it wouldn't matter because in 1 + 10 dialing, all extra digits beyond 1+10 are ignored, just as it has always been.

Handling local or toll calls coming into the 818/626 overlay area:

When calling from outside 818/626, standard 1 + 10 digit dialing would be used to dial to any number inside the 818/626 overlay area. If someone from outside the 818/626 overlay area were to accidentally use the '1 + 10 + x' format (because they were unclear as to the correct dialing rules in the overlay area) it wouldn't matter because in 1 + 10 dialing, all additional digits are ignored.

Directory listings:

In the 818/626 telephone directories the numbers will be listed as follows:

legend:	7 digit + '0' = 818 area code	7 digit + '1' = 626 area code
818 number	999-3360-0	
626 number	956-2200-1	
213 number	213-462-2110	*out of 'overlay area' number*
626 number	347-9426-1	
818 number	883-6234-0	
818 number	830-9339-0	
818 number	982-7417-0	
626 number	889-4509-1	
310 number	310-244-0177	*out of 'overlay area' number*

Because no area codes would need to be listed for intra-overlay area phone numbers, the 'new' 626 numbers (which a new business might have) will not stand out as red flags to customers looking for experienced services. Only out of 'overlay area' phone numbers would stand out, the same as they already do in current directories.

To further remind people how the system works, a sticker could be supplied to customers in the 818/626 area that said:

8 digit dialing supported:
7 digit phone number + 0 = 818 area code
7 digit phone number + 1 = 626 area code

How to inform the public on how to use the new plan:

On and after the date that the overlay plan is to take effect:

For calls made from any telephone within the 818/626 overlay area:

- **to any phone number in the 818 area code overlay level (the parent level of the overlay area):**
  You may dial all 818 area code telephone numbers exactly as you always have in the past using just 7 digits. After a short delay your call will go through.
  You may avoid this delay by dialing the 7 digit number + 0.
- **to any phone number in the 626 area code overlay level (the first child level of the overlay area):**
  You must dial all new 626 area code telephone numbers as the 7 digit number + 1.
- **to phone numbers in area codes outside of the 818/626 overlay area:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

For calls made from area codes outside of the 818/626 overlay area:

- **to any area code within the 818/626 overlay area:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

Conclusion:

This plan addresses customers' objections to using overlays which they fear would result in confusion and/or the inconvenience of having to dial 11 digits just to call across the street.

To ease the public's transition to overlays, simple 7 digit dialing to all existing parent level numbers is maintained (this is also a benefit for children and automatic dialing systems).

The plan allows for abbreviated '7 digit + suffix' dialing from and to any phone within the entire overlay area, without affecting how 1 + 10 digit calls 'out-of', 'into', or within the overlay area are handled. It is expandable to 10 levels (0-9) of overlay within a single geographic dialing area, allowing for painless addition of many new numbers in the future.

Additionally, the new style of directory listings won't be a disadvantage for new businesses.

For the public, this plan will have the psychological appeal of being a new 'high tech' solution to the challenges presented by splits and standard overlays. It answers all of the public's concerns about overlays, and will leave citizens and businesses with a feeling that something is finally being done to protect them from the expense and disruption that traditionally comes with area code exhaust and relief.

When the advantages of this plan are weighed against the disadvantages of area code splits and standard implementations of overlays (expense, disruption, confusion, inconvenience, permanent impact on the size of geographic dialing areas, etc.), this uniform dialing plan for overlays clearly makes sense as a solution for both the short and the long term.

This system can be applied to any area that is faced with the need to introduce an overlay. If this system becomes a standard, over time large areas of North America would be able to locally take advantage of this plan without affecting how any 'out of area' or 'into area' dialing and switching is handled.

Illustrations:

Using the 818/626 area code as an example, the attached diagrams illustrate how dialing patterns are impacted by various forms of area code relief.

- *Figure 1A* shows the established dialing patterns in an area code prior to implementing relief.
- *Figure 2A* shows how an area code split disrupts established dialing patterns.
- *Figure 3A* shows how a standard overlay impacts established dialing patterns and how its overlay levels are not united by a distinctive dialing plan.
- *Figure 4A* shows that *The Unified Dialing Plan for Overlays* is non-disruptive to established dialing patterns AND unifies all levels of the overlay area with a simple 8 digit dialing system.

Submitted by:

Gilbert Yablon
The Unified Dialing Plan for Overlays
21914 Dumetz Rd.
Woodland Hills, CA 91364

818-999-1070-0 - (voice)
818-956-2200-0 - (alt. voice)
818-956-3298-0 - (fax)

An Alternative to Area Code Splitting
proposed by: Gilbert Yablon
revised 8/15/96

Introduction:
My plan is a non-disruptive method of adding phone numbers to existing area codes. It offers simplicity, low cost and convenience to both the phone company and the consumer.

Features:
1) Area code boundaries will not need to be changed.
2) All existing numbers will remain unchanged.
3) Will not cause the inconvenience and expense generated by an area code split.
4) Will not cause the confusion generated by the introduction of an overlay.

5) All new numbers will share the original 3 digit area code.
6) At least twice as many phone numbers will be immediately available with an easy path to adding more at any time in the future.

How it will work:
My plan is to implement a pseudo 8 digit dialing plan only into areas that need more phone numbers. In practice this implementation will be transparent to the user while in execution (at the switching level) it will actually function as an overlay. The 8th digit (0 or 1) will be treated as a suffix, and will determine which overlay is accessed. The actual switching at the local level would still be based on traditional 7 digit dialing.

NOTE: customers in area codes in which my plan has not been implemented, do not need to use 8 digit numbers when dialing local calls or when dialing out of area calls, unless those calls are being sent to an 8 digit dialing area.

For LOCAL calls:
example - local calls within the 818 area code:
•on the switching level:

Area code 818 will be known as **818-A***(original)* and **818-B***(overlay)*.

After the central office receives the traditional 7 digits, there will be a courtesy pause of 3 to 7 seconds, which will allow the user to enter a '0' or '1' or nothing.

If no digit is entered, the system assumes '0' and completes the call to 818-A. This feature allows all existing phone numbers to still be accessible by dialing only the original 7 digit number.

If a '0' is entered, the system also completes the call to 818-A.

If a '1' is entered, the system completes the call to 818-B.

Once the number arrives at 818-A or 818-B, it is switched at the central office as a normal 7 digit number (the new 8th digit is ignored at this level - it was only necessary in determining which overlay to access).

•on the dialing level:

818-A can be accessed the same as always, by dialing only the 7 digit phone number. The 8th digit '0' could be added by the user, but it is not mandatory - thus no directories, stationary, auto dialing systems, etc. need to be changed.

818-B will be accessed when the user supplies a '1' for the 8th digit. These new

numbers will always be known to the users as 8 digit phone numbers, and so no existing data will need to be updated.

For calls coming in from OUT OF AREA:
example - calling into the 818 area code from another area code:

•<u>on the switching level</u>:

When an out of area call is initiated with a 0 or a 1 (to access long distance services), the phone system normally listens for the completion of a 10 digit number. i.e. 818-956-3360.

For my plan to be implemented, the system will listen for the traditional 10 digits, and will then supply a courtesy pause of 3 to 7 seconds which will give the opportunity for the user to enter an 11th digit (if necessary). The 10 or 11 digit phone number will then be routed to the destination area code.

If the call was intended for 818, when it arrives at 818 the number is tested for a '0' or '1' suffix in the same manner as described for local calls above.

If there is no 8th digit, the system assumes '0' and completes the call to 818-A.

If the 8th digit is '0', the system also completes the call to 818-A.

If the 8th digit is '1', the system completes the call to 818-B.

Once the number arrives at 818-A or 818-B, it is switched at the central office as a normal 7 digit number.

•<u>on the dialing level</u>:

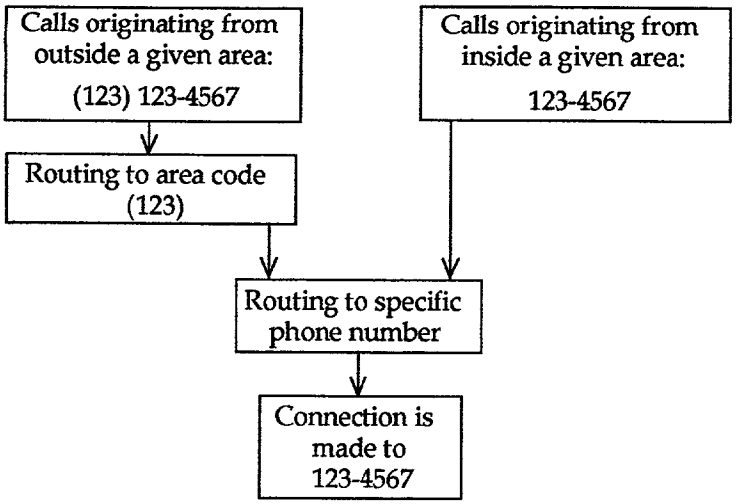
818-A can be accessed the same as always, by dialing only 1-818+the original 7 digit phone number. The 8th digit '0' can be added by the user, but it is not mandatory - thus no out of town directories, auto dialing systems, etc. need to be updated.

818-B will be accessed when the user dials 1-818+the 8 digit phone number, using a '1' for the 8th digit. These new numbers will always be known to the users as 8 digit phone numbers, and so there is no existing data that will need to be updated.

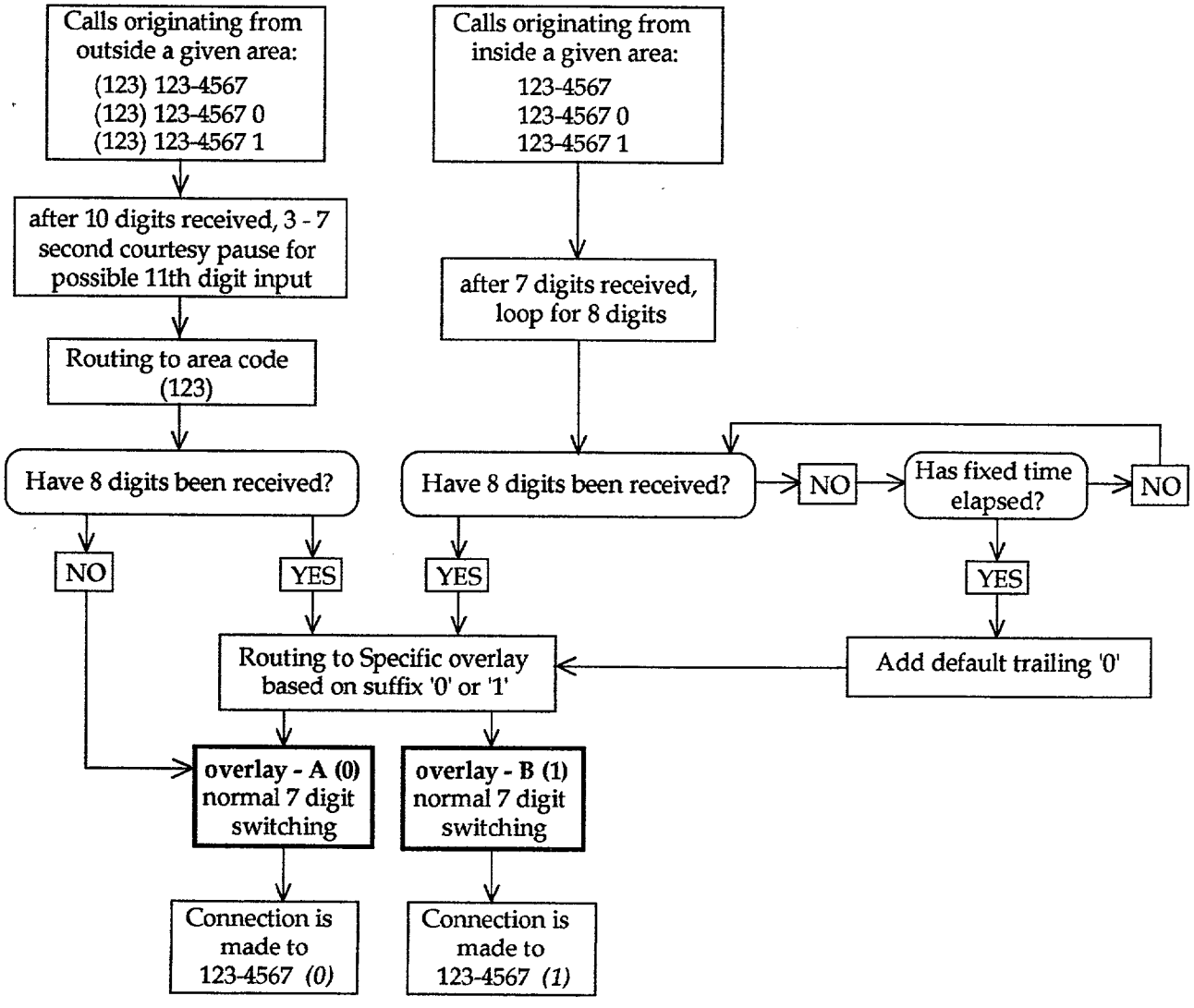
The Future:
Future demands would allow for the implementing of overlays 2 through 9 as needed.

Atlernative to Area Code Splitting
Functional Diagram
proposed by: Gilbert Yablon
revised 8/15/96

Under the current 3 digit area code + 7 digit phone number system:



Under my proposed 3 digit area code +pseudo 8 digit/overlay phone number system:



Alternative to Area Code Splitting
Number Allocation Method Diagram
proposed by: Gilbert Yablon
revised 8/15/96

Here is how the new numbers would be allocated:

(123) 123-4567 — current number now.

(123) 123-4567 0 — current number under my proposed plan.
note: the trailing '0' would not need to be entered by the user. Phone company equipment will automatically add the '0' after a fixed time (3 - 7 seconds) to complete the call if only 7 digits have been entered by the user.

(123) 123-4567 1 — first generation of new numbers under my proposed plan.

and if more numbers are later needed...
(123) 123-4567 2
(123) 123-4567 3
(123) 123-4567 4
(123) 123-4567 5
(123) 123-4567 6
(123) 123-4567 7
(123) 123-4567 8
(123) 123-4567 9

note: the trailing '1 - 9' would need to be entered by the user. Since these are new numbers, they will always be known as 8 digit numbers from the time they are first issued, and will be memorized, listed in directories and dialed as such.

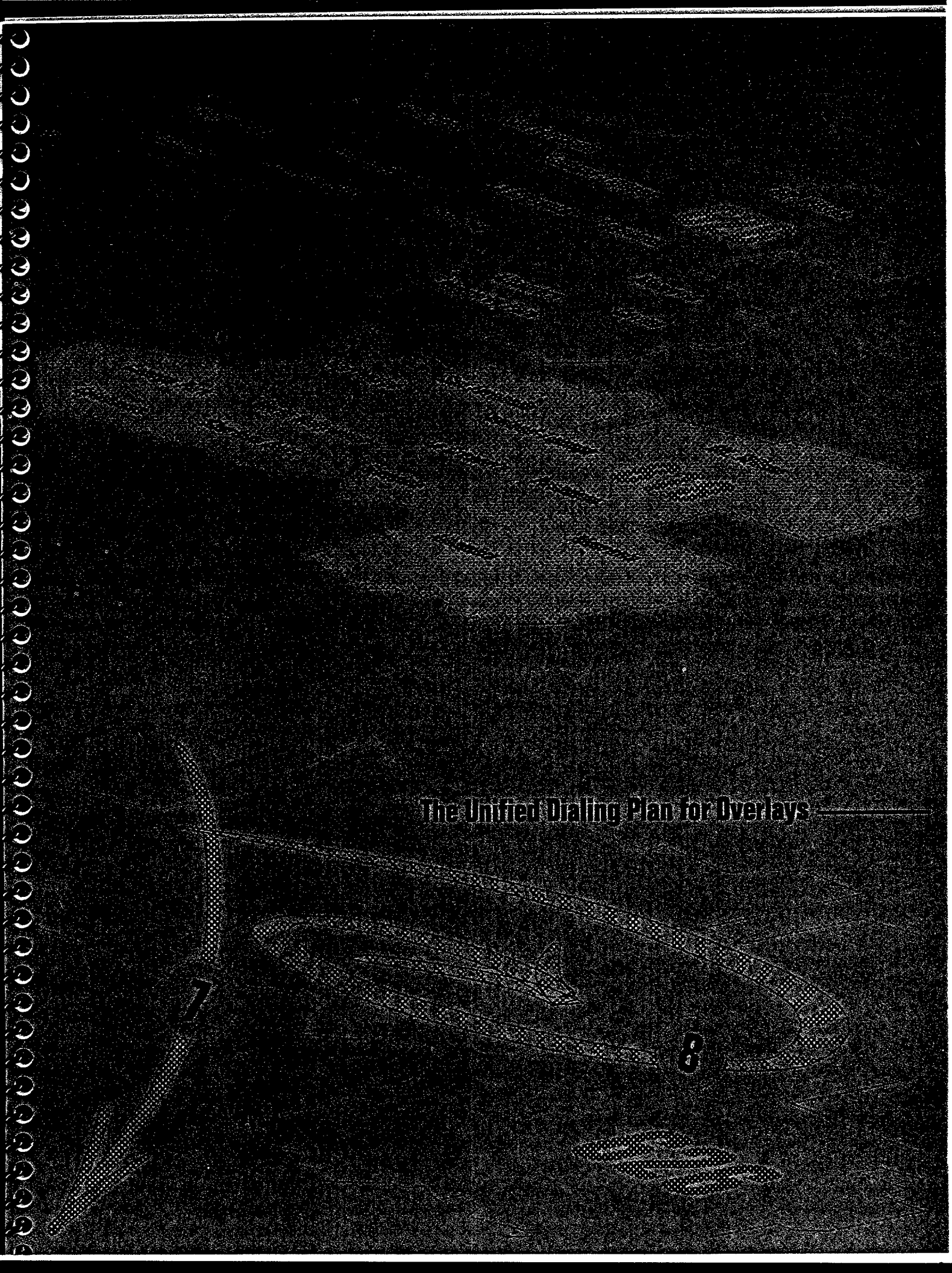
At some point far into the future even more numbers might be needed. The same non-disruptive system could be used to expand again at that time.

(123) 123-4567 00 — current number far into the future.
note: neither of these trailing '0's would need to be entered. If only 7 digits were entered, the phone company would automatically add the '0' or '00' after the fixed time. Thus, the original 7 digit number could still be reached by only dialing the original 7 digits.

(123) 123-4567 10 — first generation of new numbers far into the future.
(123) 123-4567 20
(123) 123-4567 30
(123) 123-4567 40
(123) 123-4567 50
(123) 123-4567 60
(123) 123-4567 70
(123) 123-4567 80
(123) 123-4567 90

note: the new trailing '0' would not need to be dialed. Phone company equipment would automatically add the trailing '0' just as it would for the original 7 digit numbers. So, no directories or habits would need updating even for these numbers.

(123) 123-4567 11 (12 13 14 15 16 17 18 19) second generation of new numbers.
(123) 123-4567 21 (22 23 24 25 26 27 28 29)
(123) 123-4567 31 (32 33 34 35 36 37 38 39)
(123) 123-4567 41 (42 43 44 45 46 47 48 49)
(123) 123-4567 51 (52 53 54 55 56 57 58 59)
(123) 123-4567 61 (62 63 64 65 66 67 68 69)
(123) 123-4567 71 (72 73 74 75 76 77 78 79)
(123) 123-4567 81 (82 83 84 85 86 87 88 89)
(123) 123-4567 91 (92 93 94 95 96 97 98 99)


The Unified Dialing Plan for Overlays
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'The Unified Dialing Plan for Overlays'

A Dialing Plan which Supports the Implementation of Overlays for NPA Relief
proposed by Gilbert Yablon
revised 4/2/97

This plan describes a dialing system which supports the implementation of overlays for NPA relief by eliminating the public's main objections to them. The plan unifies all levels of an overlay area with a consistent abbreviated dialing method, and does so without impacting any other areas of the NANP.

The goal of this plan is to:

- Reduce the confusion and inconvenience that is associated with having multiple area codes within individual neighborhoods and households.
- Implement an abbreviated dialing system which will be non-disruptive to existing dialing patterns, thereby accommodating people who might otherwise be put in jeopardy by a change in the dialing plan (especially children), and creating a way for existing auto dialers to complete calls without reprogramming.
- Reduce the likelihood that the new overlay area code will be a stigma for new businesses.
- Ensure costs to businesses and disruption overall will be kept to a minimum.

Defining these terms will be helpful for the discussions that follow:

parent level of overlay	the original area code (in these examples the 818 area code)
child level of overlay	a new overlaid area code (in these examples the 626 area code is the first child level)
overlay area	a single geographic area which contains the parent level and all of the child overlay levels.
intra-overlay	refers to calls where the origin and the destination area codes both reside within the overlay area
abbreviated dialing	dialing which requires fewer than 11 digits to complete (abbreviated dialing within an NPA is typically 7 digits).
timing	as used in this uniform dialing plan: an industry determined interval (probably 3 - 4 seconds) invoked after the 7th digit of a phone number is dialed. If this interval elapses and no further digits have been entered, the switch will run an analysis on the 7 digit number that has been dialed. This technique will allow customers to dial valid phone numbers of varying lengths (7 or 8 digits).

In Brief:

I am proposing a method of implementing an overlay, in which local dialing within the overlay area is facilitated by:

- *'7 digit' + timing dialing* for intra-overlay calls directed to the parent level of the overlay. This will ensure that dialing patterns to existing numbers (parent level numbers) will not be disrupted with the introduction of an overlay.

- *'8 digit' (7 + suffix) dialing* for intra-overlay calls directed to any level of the overlay (parent or child). This would be a '7 + x' system, where the 8th digit is a suffix and acts as an overlay selector. Each area code within the overlay area will be assigned a unique identifier, which will then be used as the '8th digit suffix' or 'overlay selector' in dialing. **This feature unifies all levels of the overlay area with consistent abbreviated dialing, regardless of the originating or destination overlay area codes.**

- *1+10 digit dialing* (permissive not mandatory) throughout the entire overlay area. This actually is the backbone on which the rest of the plan is built.

This plan is applicable to any area where an overlay might need to be implemented, but for ease of illustration I will describe it hypothetically using 818 as the original area code, and 626 as the first new 'overlaid' level.

How the plan would be implemented:

Within the overlay area only (example: the hypothetical 818/626 overlay area):

The suffixes for intra-overlay dialing would be determined as follows:

- All 818 numbers would receive a suffix of '0' (representing the parent level).
- All 626 numbers would receive a suffix of '1' (representing the first child level).
- Any future overlay levels would receive a suffix of '2' - '9' in that order. This framework will allow for easy future expansion when more numbers are needed.

For example:

123-4567-0 = 1-818-123-4567	Within the 818/626 overlay area, either style is valid.
123-4567-1 = 1-626-123-4567	Within the 818/626 overlay area, either style is valid.
123-4567-2 = 1-???-123-4567	Within the 818/626/??? overlay area, either style will be valid (for a third area code).

Further:

- All 818 numbers can also be reached from any level of the overlay simply by dialing the original 7 digit number + waiting for a short timing delay. This feature of the Unified Dialing Plan makes the introduction of an overlay completely non-disruptive to the existing dialing patterns of the original area code.

For example:

123-4567+**timing delay** = 1-818-123-4567	Defaults to 818 + 7 digit number to accommodate existing dialing patterns. The industry would determine the appropriate length for this timing delay.

From within the overlay area, the dialing plan would operate as follows:

- Once 7 digits are received, the call will be considered legal, however the system will wait an additional timing period (to be determined by the industry) for a possible 8th digit which technically is the 'overlay selector'.
- ..... If 8 digits are received, the phone system will run an analysis on the number, examining the 8th digit first.
- ..... If the 8th digit is a '0', the call will be directed to the 818 level of the overlay.
- ..... If the 8th digit is a '1', the call will be directed to the 626 level of the overlay.
- ..... If the industry determined 'timing delay' elapses before the 8th digit is received, a suffix of '0' is assumed, and the 7 digit call will automatically be directed to the 818 level of the overlay.
- If an industry determined 'timing delay' elapses and less than 7 digits have been received, the call is considered abandoned, and the standard 'try again' message is given.
- Once the proper overlay level is determined and the call is routed to the proper area code within the overlay area, the suffix is discarded, leaving a standard 7 digit number to be routed by traditional 7 digit switching logic.
- To summarize, all '7 digit + timing' or '7 digit + suffix' calls are converted to 1+10 numbers by the phone system, and are then transparently routed to the proper overlay level.

Note: 1 + 10 digit dialing for intra-overlay calls would also be supported, if that were how people preferred to dial, but it would not be mandatory.

Handling local or toll calls going outside the 818/626 overlay area:

Mandatory 1 + 10 digit dialing would be used for dialing to any number outside of the 818/626 overlay area, whether it be local or toll. If someone in the overlay area were to accidentally use the '1 + 10 + x' format (because they had become accustomed to dialing 8 digit phone numbers) it wouldn't matter because in 1 + 10 dialing, all extra digits beyond 1+10 are ignored, just as it has always been.

Handling local or toll calls coming into the 818/626 overlay area:

When calling from outside 818/626, standard 1 + 10 digit dialing would be used to dial to any number inside the 818/626 overlay area. If someone from outside the 818/626 overlay area were to accidentally use the '1 + 10 + x' format (because they were unclear as to the correct dialing rules in the overlay area) it wouldn't matter because in 1 + 10 dialing, all additional digits are ignored.

Directory listings:

In the 818/626 telephone directories the numbers will be listed as follows:

legend:	7 digit + '0' = 818 area code	7 digit + '1' = 626 area code
818 number	999-3360-0	
626 number	956-2200-1	
213 number	213-462-2110	*out of 'overlay area' number*
626 number	347-9426-1	
818 number	883-6234-0	
818 number	830-9339-0	
818 number	982-7417-0	
626 number	889-4509-1	
310 number	310-244-0177	*out of 'overlay area' number*

Because no area codes would need to be listed for intra-overlay phone numbers, 626 numbers will not stand out as red flags to customers looking for services. Only out of 'overlay area' phone numbers would stand out.

To further remind people how the system works, a sticker could be supplied to customers in the 818/626 area that said:

8 digit dialing supported:
7 digit phone number + 0 = 818 area code
7 digit phone number + 1 = 626 area code

How to inform the public on how to use the new plan:

On and after the date that the overlay plan is to take effect:

For calls made <u>from</u> any telephone within the 818/626 overlay area:

- **<u>to</u> any phone number in the <u>818</u> area code overlay level (the <u>parent</u> level of the overlay area):**
  You may dial all 818 area code telephone numbers exactly as you always have in the past using just 7 digits. After a short delay your call will go through.
  <u>You may avoid this delay by dialing the 7 digit number + 0</u>.
- **<u>to</u> any phone number in the <u>626</u> area code overlay level (the first <u>child</u> level of the overlay area):**
  You must dial all new 626 area code telephone numbers as the 7 digit number + 1.
- **<u>to</u> phone numbers in area codes outside of the 818/626 overlay area:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

For calls made <u>from area codes outside</u> of the 818/626 overlay area:

- **<u>to</u> any area code within the 818/626 overlay area:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

Conclusion:

This plan addresses customers' objections to using overlays which they fear would result in confusion and/or the inconvenience of having to dial 11 digits just to call across the street.

To ease the public's transition to overlays, simple 7 digit dialing to all existing parent level numbers is maintained (this is also a benefit for children and automatic dialing systems).

The plan allows for abbreviated '7 digit + suffix' dialing from and to any phone within the entire overlay area, without affecting how 1 + 10 digit calls '<u>out-of</u>', '<u>into</u>', or <u>within</u> the overlay area are handled. It is expandable to 10 levels (0-9) of overlay within a single geographic dialing area, allowing for painless addition of many new numbers in the future.

Additionally, the new style of directory listings won't be a disadvantage for new businesses.

For the public, this plan will have the psychological appeal of being a new 'high tech' solution to the challenges presented by splits and standard overlays. It answers all of the public's concerns about overlays, and will leave citizens and businesses with a feeling that something is finally being done to protect them from the expense and disruption that traditionally comes with area code exhaust and relief.

When the advantages of this plan are weighed against the disadvantages of area code splits and standard implementations of overlays (expense, disruption, confusion, inconvenience, permanent impact on the size of geographic dialing areas, etc.), this uniform dialing plan for overlays clearly makes sense as a solution for both the short and the long term.

This system can be applied to any area that is faced with the need to introduce an overlay. If this system becomes a standard, over time large areas of North America would be able to locally take advantage of my plan without affecting how any 'out of area' or 'into area' dialing and switching is handled.

Illustrations:

Using the 818/626 area code as an example, the attached diagrams illustrate how dialing patterns are impacted by various forms of area code relief.

- *Figure 1A* shows the established dialing patterns in an area code prior to implementing relief.
- *Figure 2A* shows how an area code split disrupts established dialing patterns.
- *Figure 3A* shows how a standard overlay impacts established dialing patterns and how its overlay levels are not united by a distinctive dialing plan.
- *Figure 4A* shows that *The Unified Dialing Plan for Overlays* is non-disruptive to established dialing patterns AND unifies all levels of the overlay area with a simple 8 digit dialing system.

Submitted by:

Gilbert Yablon
The Unified Dialing Plan for Overlays
21914 Dumetz Rd.
Woodland Hills, CA 91364

818-999-1070-0 - (voice)
818-956-2200-0 - (alt. voice)
818-956-3298-0 - (fax)

Currently Existing Area Code

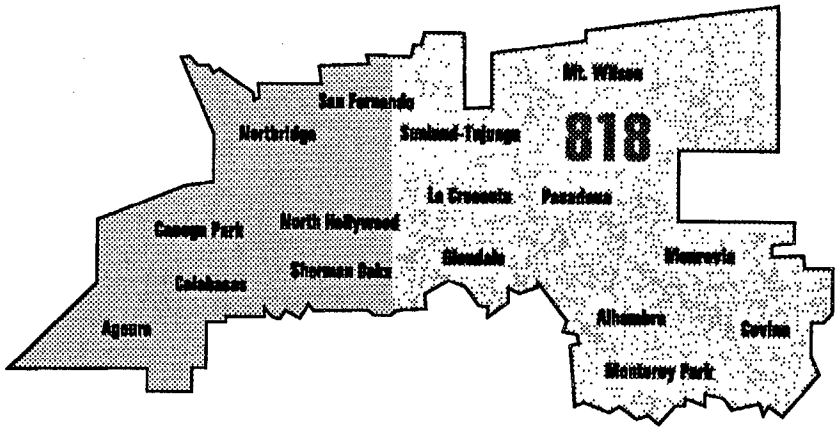


Fig.1: Communities Involved

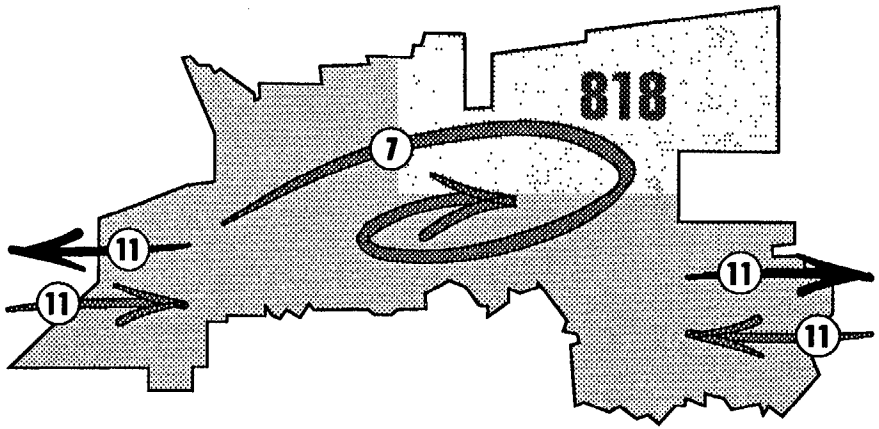


Fig.1A: Dialing Patterns

Dialing Options

7 Digit Dialing
Within 818
123-4567

11 Digit Dialing
Into Area
1+818+123-4567

Out of Area
1+NXX+123-4567

This map shows the established dialing patterns of an area code before being impacted by area code relief. These dialing patterns will be disrupted by either a split or a standard overlay.

Approved Area Code Split [effective June 1997]

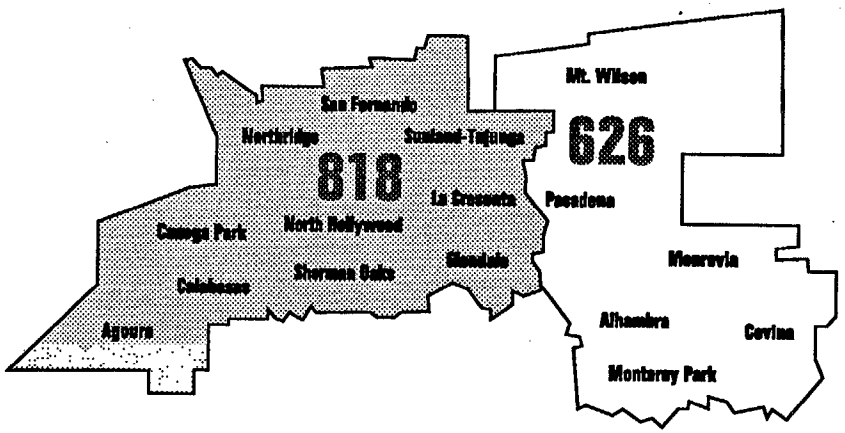


Fig.2: Communities Involved

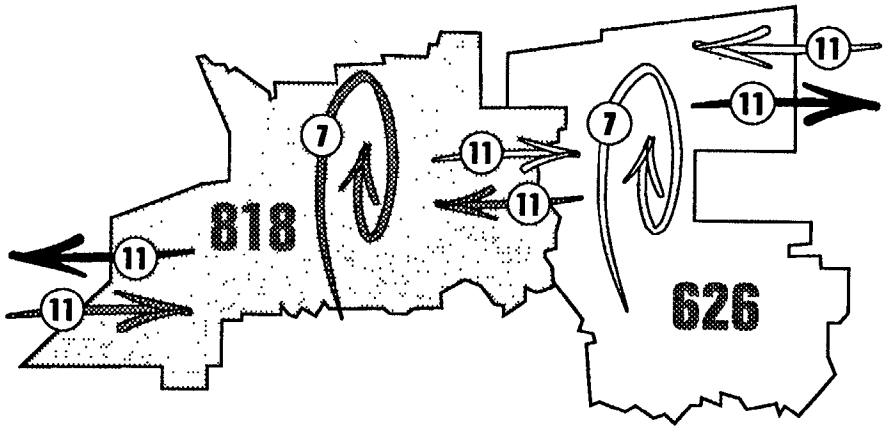


Fig.2A: Dialing Patterns

Dialing Options

7 Digit Dialing

Within 818
123-4567

or

Within 626
123-4567

11 Digit Dialing

Into Area
1+818+123-4567
1+626+123-4567

Out of Area
1+NXX+123-4567

Between 818/626
1+818+123-4567
1+626+123-4567

Implementing a split greatly impacts dialing for calls both within and into the original NPA. This method of relief is expensive for business and disruptive to all customers, both within and outside of the affected area.

The Standard Overlay Method

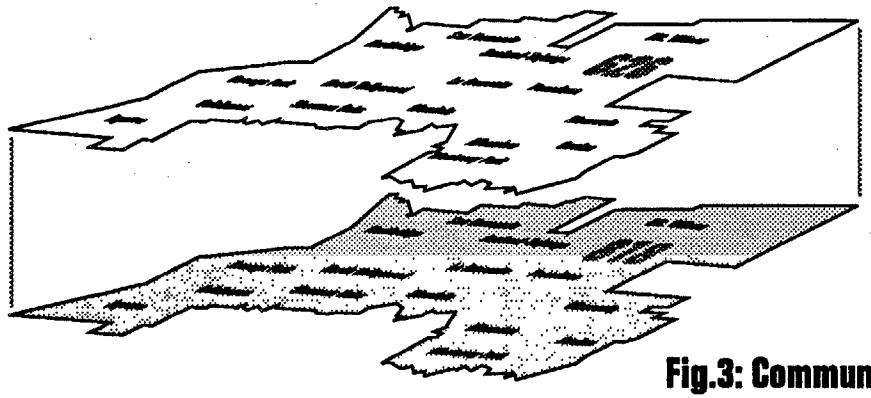


Fig.3: Communities Involved

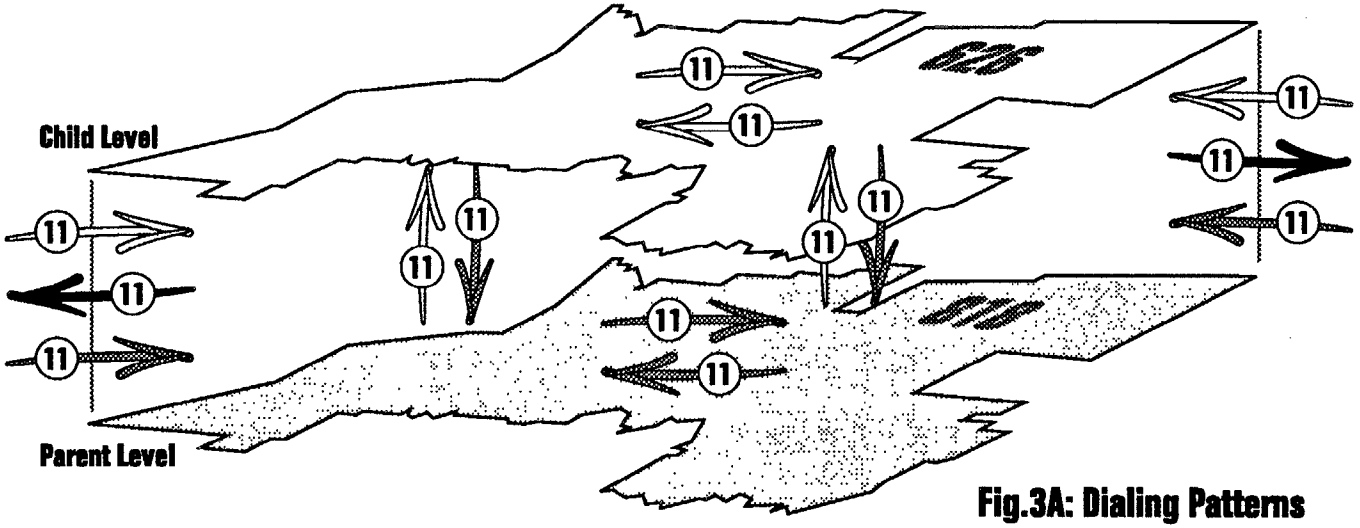


Fig.3A: Dialing Patterns

Dialing Options

7 Digit Dialing

Thought to be impractical for this Overlay Method

Mandatory 11 Digit Dialing

Into Area

1+818+123-4567

or 1+626+123-4567

Out of Area

1+NXX+123-4567

Within 818/626 Area

1+818+123-4567

or 1+626+123-4567

With abbreviated dialing abandoned, the overlay levels are not unified by a distinctive dialing plan. The concern that this mix of area codes will cause hardship and confusion for citizens has prevented overlays from becoming widely accepted.

The Unified Dialing Plan for Overlays

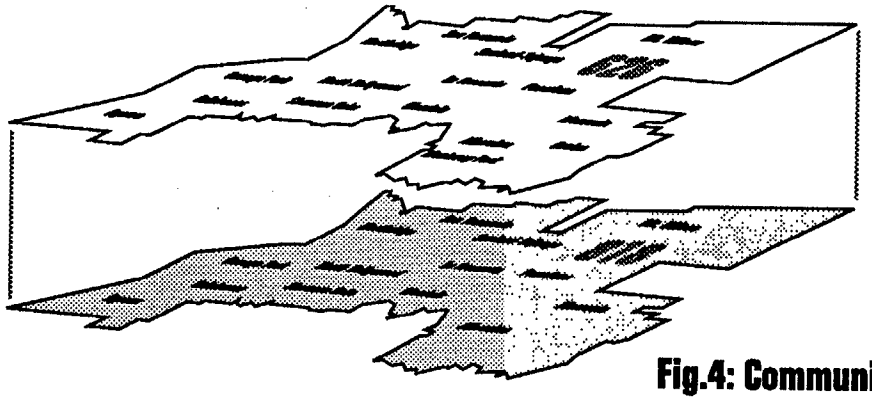


Fig.4: Communities Involved

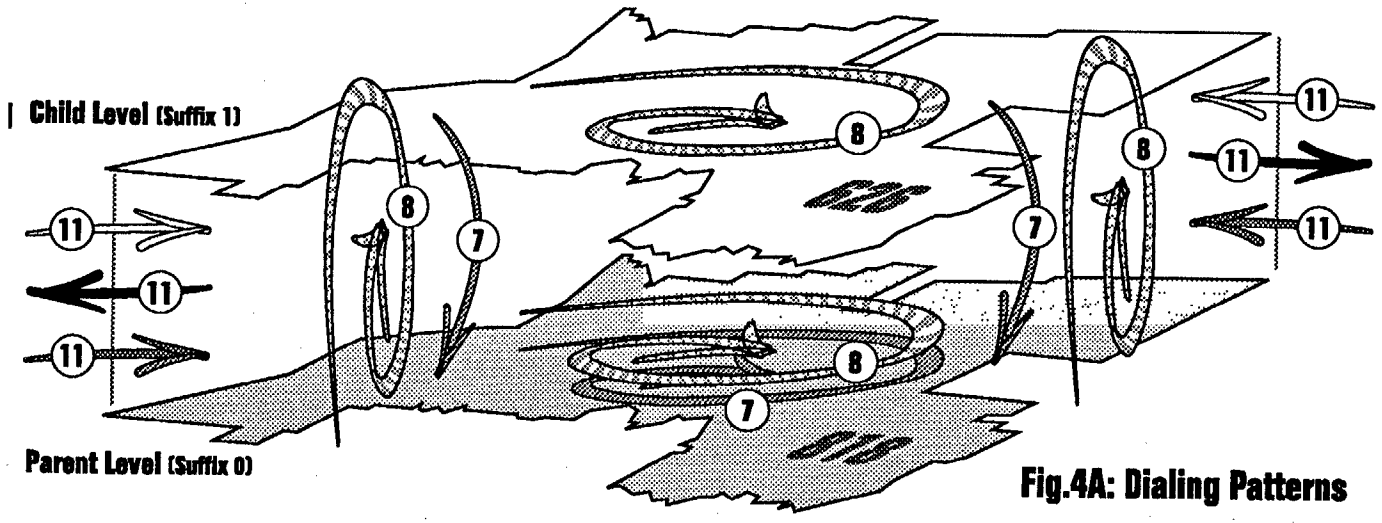
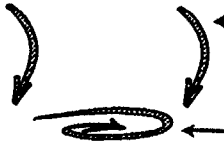


Fig.4A: Dialing Patterns

Dialing Options

7 Digit Dialing - Preserved



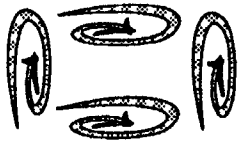
From 626 to 818

or

Within 818

123-4567

Unified - 8 Digit Dialing (7+X)



Within 818/626 Area

123-4567+0 (for 818)

123-4567+1 (for 626)

11 Digit Dialing

Into Area

1+818+123-4567

or 1+626+123-4567

Out of Area

1+NXX+123-4567

Note: For Optional 11 Digit Dialing Within 818/626 Area Refer to Fig. 3A

This overlay method provides for long term relief AND maintains the intregity of the original dialing area by:
1) Preserving established 7 digit dialing to all parent level numbers from any level within the overlay area.
2) Unifying all levels of the overlay with a simple 8 digit (7+suffix) dialing system.
3) Allowing for optional (not mandatory) 11 digit dialing between levels of the overlay.

7
8